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SKYLAB I MISSION COMMENTARY 5/14/73 CST 11:00 GET T-1:30:30 MC1/1

PAO This is Skylab Launch Control. We're T-1 hour and 30 minutes in the countdown for the launch of Skylab, America's first orbiting space laboratory. At the T-1 1 hour 30 minute mark, a simulated first motion signal was sent to Houston Flight and to the Air Force Eastern Test Range. The signal, of course, is generated by the first motion of the vehicle down at the end of the countdown. This is a simulated test to ensure that that signal is being sent to Houston and to the range. Houston and the range then will start their plus time clocks on this signal. Also completed recently were preflight command system checks. This ensures that preflight commands sent from the Johnson Space Center in Houston are getting through to the launch vehicle. Over on Pad B, adjacent to Pad A, where the countdown is continuing on the Skylab 2 vehicle, the pad area has been cleared, but the clock continues to count over there. The clock will continue counting until 1:15 PM today. At that time on Pad B and the SL-2 or first manned mission launch, they'll go into a planned hold period. Now, that hold period is planned for 15 minutes, but will vary depending on the exact launch time here at Skylab 1. As soon as Skylab 1 is launched, that will be picked up. The clock will be picked up for Skylab 2. They'll be holding at the T-22 hour and 15 minute mark in their countdown. There is one, actually 2, planned holds in the remaining part of that count. There's a 1 hour and 13 minute hold planned at the T-3 hour and 30 minute mark tomorrow in that countdown. That hold will be used also to adjust the clock to the orbiting laboratory. Once again at the 15 minute mark there will be a short hold, this time for just 2 minutes and that hold also will be used to adjust the time clock and the countdown to the position of the orbiting laboratory. The weather for today's launch continues to look good. Actually, the weather is clearing considerably since earlier this morning when there was considerable cloudiness. Clouds now are broken over the launch pad area. A few scattered clouds is all there are in the area. Wind's from the southeast at 10 knots. Temperatures at launch are expected to be approximately 80 degrees Fahrenheit. The countdown continuing to move smoothly, actually running somewhat ahead of schedule at this time. T-1 hour 27 minutes and counting, this is Kennedy Launch Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 11:30 CST T-1:00:00 GET MC2/1

PAO This is Skylab Launch Control. We're just passing the 1-hour mark in the countdown, now at T-59 minutes 55 seconds and counting. Underway at this time are checks of the C-band beacons aboard the space vehicle. These are two beacons actually located in the instrument unit and they are used in conjunction with ground radars to track the vehicle during the powered phase of flight. At that time they can give, by this tracking, position data, speed, and acceleration. Coming up soon in the countdown will be a critical power transfer test. Up to this point the vehicle has been receiving power from the ground to conserve on the batteries, which are located in the vehicle. We'll make a quick test at this point to ensure that during a crossover to those flight batteries, all systems work well. Then we'll go back to the ground power again. At T-50 seconds in the countdown we'll switch - make a final switchover to the flight batteries. Superintendent of Range Operations just reported to Chuck Henschel with his report on optical coverage from the long-range cameras. And our long-range camera is located at Patrick Air Force Base. That camera is expected to give 100 percent coverage; at the Cape, 90 percent coverage. And as we move north, the bad weather, which was over the Cape area this morning, appears to have settled in around New Smyrna and Daytona. The tracking camera near New Smyrna is expected to yield only 10 percent coverage, and the one about 8 miles north of Daytona is not expected to be able to cover the flight of Skylab. Countdown moving along well. T-58 minutes 24 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

SKYLAB I MISSION COMMENTARY 5/14/73 CST 11:45 GET T-45:00 MC3/1

PAO This is Skylab Launch Control. T minus 45 minutes and counting. Coming up shortly in our countdown will be checks of the range safety command receivers. These receivers are part of what's called the secure range safety systems aboard the launch vehicle. The Range Safety Officer could terminate the flight of Skylab if it should become erratic by initiating the emergency engine cutoff or, if necessary, the propellant dispersion command. These systems are located on each stage of the Saturn-V and the receivers, two in each stage, receive the signal from the Range Safety Officer and send them through the proper channels to perform the propellant dispersion. Also coming up, as mentioned earlier, will be the very critical power transfer test. Underway right now are checks of radar beacon number 1. Radar beacon number 2 has been checked out; checked out okay. Superintendent of Range Operations just checked in with Chuck Henschel, the Test Supervisor, reported that the Kennedy Space Center area is clear for launch at this time. Weather also continues to look favorable, actually clearing, some clouds in the area, winds from the southeast at 10 knots. Temperature is expected to be about 80 degrees Fahrenheit at launch time. The astronauts for the first manned visit to the Skylab are watching the launch today from a special site here at Kennedy Space Center. The crew commander for that flight, Pete Conrad, and Paul Weitz, the pilot, are watching with their wives and with Joseph Kerwin, from a special site. Mrs. Kerwin is with the parents of astronaut Kerwin, watching from a different site but also at Kennedy Space Center. Just a few moments ago the NASA Administrator, James Webb, came into the firing room. He'll remain here in the firing room through the launch. Countdown continuing to move smoothly. T minus 43 minutes 16 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

JKYLA3 MISSION COMMENTARY 5/14/73 CSI 12:00 GET T-30:00 MC4/1

PAO This is Skylab Launch Control passing the T minus 30 minute mark; T minus 29 minutes 56 seconds and counting. At this time the orbital workshop stands ready above the Saturn-V vehicle. The power transfer test successfully completed just a few moments ago. A variety of systems in the vehicle all observed during that critical test. All observed to work well on the flight batteries. We're now again using ground support batteries, ground support electricity. We'll go on the flight batteries at approximately 50 seconds in the countdown. Beacon number 1 readout now complete. Both those radar beacons located in the instrument unit of the vehicle now have been completely checked out. The Skylab, as it stands at Pad A, somewhat different in configuration than the Saturns and Apollo Saturns which we're used to seeing. Skylab stands 333 feet - 333.7 feet, whereas the Apollo Saturn V was 363 feet. Of course the Saturn V had the launch escape system on top, whereas the orbital workshop and its payload have a payload shroud covering that. Countdown continuing to move along smoothly. T minus 28 minutes 42 seconds and counting. This is Skylab Launch Control.

END OF TAPE

SKYLAB I MISSION COMMENTARY 5/14/73 CST 12:15 GET T-15:00 MC5/1

PAO This is Skylab Launch Control. We're at T-15 minutes and counting now in our countdown for Skylab I, as we continue to aim for a 1:30 PM Eastern Daylight Time lift-off. At this time, the S-2 or second stage start tanks are being chilled down. These tanks are being chilled to receive the extremely cold liquid hydrogen and liquid oxygen, which will pour into them when there is ignition of the second stage at T plus 2 minutes and 42 seconds into the mission. We continue to replenish those fuels, the cryogenics aboard the launch vehicle. They've been fully loaded, but there is some boil-off that occurs. The liquid oxygen is vented to the atmosphere and can be readily seen venting from the vehicle. Liquid hydrogen is vented to a burn pond where it is burned in a controlled manner. It's almost impossible to see the liquid hydrogen burning during the daylight; it burns so purely. The Superintendent of Range Operations just reported in that there is no change in the earlier reports of tracking camera coverage. He had estimated at that time that the tracking camera at Patrick Air Force Base would get 100 percent coverage; at Cape Kennedy, 90 percent, and then diminishing coverage as we move north. Countdown moving along smoothly. T-13 minutes 45 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 12:21 CST T-10:00 GET MC6/1

PAO This is Skylab, Launch Control, T-10 minutes and counting. And the countdown continues to run smoothly as it has throughout the morning. Cryogenics loaded aboard the vehicle. We continue to aim for a lift-off time of 1:30 p.m. eastern daylight time. Now T-9 minutes 45 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 12:00 GET T-30:00 MC7/1

PAO This is Skylab Launch Control passing the 6 minute mark in the countdown now for Skylab 1. Houston Flight reports in that they are GO for going onto the automatic sequencer. At the T minus 3 minute 7 second mark in the countdown, the sequencer takes over and handles the countdown from that point on. From that point on, each event which is carried out by the sequencer must occur in the proper sequence or the sequence would be stopped and the countdown would be stopped at that time. Thrust chamber chilldowns continuing. Emergency detection system has been placed to the launch mode. The instrument unit, known as the brains of the space vehicle, is now in the ready position. Various elements of the launch team now reporting into Chuck Henschel, the test supervisor, that they are GO for launch. Director of Launch Operations, Walter Kapryan, has given his GO for the launch now approaching the 5 minute mark. T minus 5 minutes 8 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 12:27 CST T-3:30 GET MC8/1

PAO This is Skylab Launch Control, T-3 minutes 30 seconds and counting in our countdown for launch of Skylab 1. The Launch Vehicle Test Conductor Norm Carlson just reported to the Test Supervisor Chuck Henachel that they are cleared for launch. Indicating they're ready to go onto the automatic sequencer. Of course, while that sequencer takes over, the team here in the firing room will continue to monitor their various stages and readouts. They would have the capability of over-riding the sequencer if that would be necessary for any reason at all. Firing command is ON, we're on the automatic sequencer as we pass now the 3-minute mark. Some of the events which will be happening now during this final 3 minutes as the sequencer has taken over will be terminating the replenishment of the liquid oxygen and the liquid hydrogen. We've been replenishing these since the loading was completed earlier this morning. The vents will be closed. These tanks will be pressurized so that we can assure ourselves of a full load of fuel and also so that we can assure a proper flow of that fuel down into the engine during flight. At the T-2 minute mark that pressurization is expected to begin. We'll transfer to the flight batteries from our external power source at 50 seconds in the countdown and we'll stay on those flight batteries from 50 seconds on down through the final portion of the count. Approaching the 2-minute mark in our countdown now. MARK. (T-2 minutes) and counting toward the launch of Skylab 1. At T-30 seconds, swing arms will start coming back. These swing arms give access to the vehicle, and also afford an arm access to the vehicle to carry the propellant and the power to the vehicle. The first stage engines will be building up 7.6 million pounds of thrust at lift-off. Lift-off will follow an ignition at 8.9 seconds. We just passed the 90-second mark in the countdown. At 8.9 seconds in the count we'll expect to get an engine sequence start on the five first stage engines of the five. They'll build up thrust. That thrust will be monitored. The vehicle will be held down for the full 8.9 seconds. And will expect to get lift-off right at T-0. We're approaching the 1-minute mark in our countdown at this time as it proceeds smoothly. MARK. T-1 minute and continuing to count. A water deluge system now has been turned on, activated at the pad area. Pressurization taking place now. The various tanks aboard the vehicle being pressurized. Switching to internal power. All stages switching now to internal power. All propellant tanks being pressurized. Count continuing smoothly. The water at the pad covering the flame deflectors now. We've passed the 30-second mark. Water will also be coming onto the decks of the mobile launcher at the ignition point. T-20 seconds and the countdown continues to go smoothly. Guidance

SKYLAB MISSION COMMENTARY 5/14/73 12:27 CST T-3:30 GET MC8/2

release; T-13, 12, 11, 10, 9, 8, we have had ignition. Sequence has started - 6, 5, 4, 3, 2, 1, 0 and we have a lift-off. The Skylab lifting off the pad now, moving up. Skylab has cleared the tower.

PAO

Houston is now controlling.

CC

Mark 18 seconds, pitch and roll program started. Saturn now maneuvering to it's proper flight path attitude. Mark 25 seconds. Mark 30 seconds, 35 seconds; 1 nautical mile in altitude, looking good. Range Safety gives Saturn a green. We've cleared the beach. Mark 50 seconds, 2-1/2 nautical miles in altitude. The ground display data shows good stable thrust on all five engines. Coming up now on 1 minute. Mark 1 minute. 1 minute 5 seconds, 4 nautical miles in altitude. Coming up now on ... maximum aerodynamic pressure on the vehicle, 1 minute 10 seconds. Roll program complete; pitch profile still in progress. Mark 1 minute 20 seconds, 7 nautical miles in altitude. The velocity now reading 2500 feet per second. Mark 1 minute 30 seconds, passed through max Q, still looking good. Saturn now 11 nautical miles in altitude, 5 nautical miles downrange; velocity now reading 3300 feet per second. 1 minute 45 seconds, all sources continuing to look good. 1 minute 56 seconds, 20 nautical miles in altitude. 2 minutes 10 seconds. 2 minutes 18 seconds. Coming up now on center engine shutdown. Center engine shutdown on time, reports Booster Systems Engineer. 2 minutes 33 seconds, 40 nautical miles in altitude, standing by now for a first stage shutdown. First stage shutdown. Good separation on time. Show good ignition on the five second stage engines. The Saturn now 56 nautical miles in altitude, 64 nautical miles downrange. 9300 feet per second now reading the velocity. The huge first stage falling away now, now out of business. 3 minutes 10 seconds, coming up on skirt SEP. The inner stage has jettisoned on schedule. The 11,400-pound ring dropping away now from the second stage engines. All sources continuing to look good. Mark 3 minutes 33 seconds. The two habitability area vent valves are now open, reports Booster, bleeding off nitrogen stored onboard prelaunch. We now show Saturn 88 nautical miles in altitude, 124 nautical miles downrange. Velocity now reading 11,000 feet per second. Looking good, reports Booster. Coming up on 4 minutes. Mark 4 minutes. Mark 4 minutes 10 seconds. Saturn now 108 nautical miles in altitude, 170 nautical miles downrange. Velocity now reading 11,244 feet per second. Mark 4 minutes 30 seconds, still looking at five good second stage engines performing as advertised. Mark 4 minutes 55 seconds. The multiple docking adapter vent valves have closed now at 1.3 pounds per square inch. Mark 5 minutes 10 seconds. Saturn now 143 nautical miles in altitude, 268 nautical miles downrange.

SKYLAB MISSION COMMENTARY 5/14/73 12:27 CST T-3:30 GET MC8/3

Velocity now reads 12,634 feet per second. Center engine shutdown on time. Good sustained thrust on the remaining four engines. They burn for about 4 more minutes. The timing in this event quite different from Apollo, but this Saturn is carrying a much lighter payload to orbit. The shutdown time to I Saturn is beginning to pitch over for more straight and level flying rather than climbing for altitude. We now show Saturn at 160 nautical miles in altitude, 328 nautical miles downrange. Mark 6 minutes, 170 nautical miles in altitude, 368 nautical miles downrange. Saturn flight path continues good. Saturn now on course, on time. Moving out, headed on it's 50 degree azimuth taking it off the east coast of the United States. We now show Saturn at 402 nautical miles downrange.

END OF TAPE

SKYLAB I MISSION COMMENTARY 5/14/73 CST 12:37 GET 07:10 MC9/1

PAO Mark 6 minutes 30 seconds. Coming up now on propellant utilization shift to - -

PAO Mark 6 minutes 58 seconds. A good propellant utilization shift giving the desired fuel to oxidizer ratio for traveling further into space. Engine performance continues excellent. We now show Saturn at 200 nautical miles in altitude, 518 nautical miles down range.

PAO Mark 7 minutes 30 seconds. The velocity building up now. Saturn now traveling at 17,306 feet per second, heading out now for down range distance. Saturn flying almost parallel to the Atlantic Ocean. We now show an altitude of 213 nautical miles, & down range distance of 620 nautical miles.

PAO Mark 8 minutes. Saturn now 220 nautical miles in altitude, 667 nautical miles down range. Velocity now reads 18,753 feet per second.

PAO Predicted time of shutdown, says Booster, is 5 minutes - or 9 minutes 51 seconds.

PAO A status check in Mission Control by Flight Director, Don Puddy: a GO/NO GO for committing the Saturn for passage over Europe; giving a green on this GO/NO GO. This being passed along to the Range Safety Officer.

PAO We now show 8 minutes 55 seconds, 231 nautical miles in altitude, 831 nautical miles down range.

PAO Trajectory data now puts Saturn traveling beyond Europe.

PAO Mark 9 minutes 15 seconds, 234 nautical miles in altitude, 902 nautical miles down range; velocity now reading 22,906 feet per second.

PAO Mark 9 minutes 30 seconds. Shutdown predicted at 9 minutes 51 seconds; standing by now for S-1 shutdown. We presently show an altitude of 236 nautical miles now on Saturn.

PAO And we've had shutdown and separation. The orbital workshop is now separated from the Saturn. It's now on station ready to deploy its solar arrays, telescope mount, meteoroid protection shield, which will make it an acceptable scientific laboratory for the astronauts for the next 8 months.

PAO The refrigeration system onboard has been activated.

PAO Sequentially, everything going right on schedule at this time.

PAO First raw data reports flight dynamics gives a nominal orbit. We showed a shutdown altitude of 236 nautical miles.

PAO Mark 11 minutes 50 seconds. Time base 4 has started. This is the instrument unit program which keys the timing for all of the up-coming sequential events.

SKYLAB MISSION COMMENTARY 5/14/73 CST 12:37 GET 7:10 NC-9/2

PAO Mark 12 minutes 30 seconds. The workshop is being pitched over now through a gravity gradient maneuver and nosed down toward the Earth for the payload shroud jettison. The shroud splits into four sections by explosive devices for separation. We're about a minute away from that event at this time. We show 12 minutes 50 seconds ground elapsed time.

PAO Latches have been pulled for the shroud jettison. We're at 13 minutes 35 seconds.

PAO Mark 13 minutes 50 seconds after the shroud has jettisoned. The next event to occur will be the Apollo telescope mount deployment. Mark; we're at 14 minutes, standing by, continuing to monitor. This is Skylab Control, Houston.

PAO Mark 14 minutes 30 seconds. Predicted time of payload shroud jettison: 15 minutes 32 seconds or 5 minutes 45 seconds since time base 4 was initiated.

PAO Mark; we're at 15 minutes now, ground elapsed time.

PAO Mark 15 minutes 27 seconds. Booster reports shroud has jettisoned. Shroud has blown away at this time. The next event to occur will be the deployment of the Apollo telescope mount.

PAO Mark; we're at 16 minutes. The discone antennas are now being commanded.

PAO Mark 16 minutes 10 seconds. Should be pulling the latches shortly for the Apollo telescope mount deployment.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 12:47 GET 17:00 MC10/1

PAO Mark. Standing by now for confirmation of ATM deployment. We're 17 minutes 35 seconds. The deployment motors of the Apollo telescope mount now running. This deployment sequence in toto takes about 4 minutes. Deployment being activated by two Apollo telescope mount motors which are presently running. We're 18 minutes 20 seconds now ground elapsed time. The booster now being maneuvered to a solar inertial attitude. We're at 19 minutes 10 seconds ground elapsed time. Mark 20 minutes ground elapsed time. We should be less than a minute away now from deployment. Mark 20 minutes 12 seconds ground elapsed time. Our data displays, Mission Control, now show the ATM has deployed and locked. The Apollo telescope mount has been deployed and securely latched. The 24,500 pound ATM reaching out now at a 90 degree angle from the orbital workshop. We're at 20 minutes 35 seconds. We've had confirmation. We have data here in Mission Control that the ATM has deployed and latched. Mark 20 minutes 50 seconds. The next event to occur will be the deployment of the four wings of the telescope mount solar array system. We're standing by now for that deployment. Mark, we're at 21 minutes 40 seconds ground elapsed time. Preliminary tracking data shows an orbit for the orbital workshop of 237 nautical miles by 236.3 nautical miles near circular. We repeat 237 nautical miles by 236.3 nautical miles. We're at 24 minutes 30 seconds now ground elapsed time. Continuing with the solar inertial maneuver, reports booster. Twenty-five minutes ground elapsed time. ~~We've got 1 minute until loss of signal with Madrid.~~ Mark, we're 25 minutes 45 seconds. The deployment motors have been turned on. The solar array system wings on the Apollo telescope mount are now extended. Standing by, continuing to monitor.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 12:57 GET 27:00 MC11/1

PAO Mark we're at 26 minutes 30 seconds under acquisition now by an ARIA aircraft following loss of signal with Madrid. Okay, all four Apollo telescope mount solar array wings are out and securely locked. Mark we're 27 minutes 20 seconds now ground elapsed time. The Apollo telescope mount has been deployed and securely latched. The solar array system for the telescope mount, the four wings, has been deployed and securely locked. The next thing we should be seeing in Mission Control - We'll be receiving telemetry data from the telescope mount and this should occur within the next several minutes. We are presently receiving data through an ARIA aircraft beyond Madrid tracking station. Mark 28 minutes 10 seconds. We now show an orbit of 237.1 nautical miles by 236.6 nautical miles for the orbital workshop. Mark 29 minutes 20 seconds. We've had some dropout in data from the ARIA aircraft, presently showing static displays in Mission Control. The procedures officer here working to get locked up on the data at this time. We're at 29 minutes 40 seconds ground elapsed time. We repeat that the Apollo telescope mount has been deployed. The solar array system from the telescope mount also deployed at this time. The next deployment to occur will be the solar array system for the workshop. Mark 32 minutes ground elapsed time. We presently show an orbit of 237.1 nautical miles by 236.8 nautical miles for the orbital workshop now in its first revolution. Mark 34 minutes 20 seconds ground elapsed time. Flight Director Don Puddy speaking to his flight control team in mission control saying everything looks good up to this point. We're standing by now for definite indication through ARIA aircraft of receipt of telemetry data from the Apollo telescope mount. We're now at 34 minutes 40 seconds ground elapsed time. Continuing to monitor. This is Skylab Control, Houston.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 13:07 GET 36:00 MC-12/1

PAO This is Skylab Control, Houston, at 36 minutes ground elapsed time, still standing by for a definite indication of receipt of telemetry from the Apollo telescope mount. Following this we will see the deployment of the meteoroid shields and the deployment of the solar array system wings aboard the workshop. Thus far, we've seen the successful activation of the Apollo telescope mount as well as the solar array system for that mount. We're at 36 minutes 35 seconds, continuing to monitor. This is Skylab Control, Houston.

PAO This is Skylab Control, Houston; 41 minutes ground elapsed time. We presently show an orbit of 235.2 nautical miles by 237 nautical miles. We are some 12 minutes 26 seconds away now from acquisition Carnarvon at which time we should be able to verify telemetry being received from the Apollo telescope mount. This is Skylab Control, Houston, at 41 minutes 35 seconds ground elapsed time.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 13:24 GET 53:00 MC13/1

PAO Skylab Control, Houston, at 53 minutes ground elapsed time. We're less than a minute away now from acquisition by Carnarvon tracking. We'll keep the line open. Stand by, continue to monitor. A quick status check in Mission Control by a Flight Director, Don Puddy, led him to say everything looks "super good" so far. We presently show an orbit based on increased tracking data of 236.5 nautical miles by 236.2 nautical miles. Standing by continuing to monitor. This is Skylab Control, Houston. We are now acquiring data through Carnarvon. Booster reports the vehicle is now in solar inertial attitude. We are now receiving telemetry data from the Apollo telescope mount. The Environmental Officer reports the data receiving looks good. The habitation area vent valves have been closed as scheduled. We're now at 55 minutes ground elapsed time. This is Skylab Control, Houston.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 13:29 GET 58:00 MC14/1

PAO Skylab Control, Houston, at 59 minutes ground elapsed time. We have no confirmation yet on the deployment of the airlock solar array system. We'll stand by and continue to monitor at 59 minutes ground elapsed time. This is Skylab Control, Houston. Skylab Control, Houston, at 1 hour 4 minutes ground elapsed time. We're less than a minute away now from acquisition by Honeysuckle. This will be a very short acquisition time, some 1 minute 11 seconds. Following Honeysuckle, the next station to receive data will be Texas, and that would be 30 minutes 30 seconds from this time. We're now at 1 hour 4 minutes ground elapsed time. Continuing to monitor, this is Skylab Control, Houston. We have acquisition through Honeysuckle at this time. We're 1 hour 5 minutes ground elapsed time. Skylab Control, Houston, at 1 hour 7 minutes ground elapsed time we've passed out of station contact with Honeysuckle at this time. The next station to acquire will be Texas at 27 minutes 42 seconds from this time. We've still received, through data, no definite indication on the airlock solar array system deployment; however, this pass, as well as Carnarvor, was through darkness and the Sun will be the first definite way of giving an indication as to whether or not the airlock module solar array system has been deployed. We would expect to take a good hard look at this through our first stateside pass. We're now at 1 hour 7 minutes ground elapsed time. This is Skylab Control, Houston.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 14:05 CST 1:34 GET M015/1

PAO This is Skylab Control, Houston, at 1 hour 34 minutes ground elapsed time. Less than a minute away now from acquisition by Texas. We show an orbit of 237.1 nautical miles by 236.2 nautical miles. To quickly recount what we've seen during this first revolution of the workshop orbit. The payload shroud jettisoned on schedule. The ATM Apollo telescope mount has deployed. The solar array system for the ATM has also deployed. We have no indication yet on the deployment of the two solar array wings attached to the workshop. We will look at this - at display data for about 10 minutes under sunlight on this stateside pass to endeavor to confirm or not confirm that deployment. Given a nonconfirmation, of course, backup commanding could be necessary from the Control Center. We're at 1 hour 35 minutes ground elapsed time. This is Skylab Control, Houston.

PAO Skylab Control, Houston, 1 hour 38 minutes ground elapsed time. Flight Director, Don Puddy, talking to the Booster System Engineer here in Mission Control. We have no indication of deployment of the workshop solar array system wings. No indication of deployment of those wings. The Booster now going through some backup command procedures. We've also had an indication of partial deployment of the meteoroid shield. We're at 1 hour 39 minutes ground elapsed time, continuing to monitor. This is Skylab Control, Houston.

PAO Skylab Control, Houston. Now 1 hour 40 minutes ground elapsed time. The orbital workshop now on it's first stateside pass since launch and insertion into orbit. We are presently looking at the orbital workshop solar array system. No indication at this time of deployment. The Booster Systems Engineer here in Mission Control going through backup procedures to issue a command for deployment. Standing by, continuing to monitor. This is Skylab Control, Houston.

PAO Skylab Control, Houston, now 1 hour 46 minutes ground elapsed time. Continuing to monitor on this first stateside pass, the orbital workshop. Again, we repeat the orbital workshop solar array system wings have not deployed. Command procedures are being followed presently on the ground by the Booster Systems Engineer. Standing by, continuing to monitor. This is Skylab Control, Houston.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 14:20 GET 1:48 M016/1

PAO Skylab Control, Houston, now 1 hour 53 minutes ground elapsed time. Receiving good data now through Newfoundland. Booster at this time issuing commands to the workshop. To repeat what we said earlier, the orbital workshop solar array system wings have not yet deployed. Standing by, continuing to monitor. This is Skylab Control, Houston. Skylab Control, Houston, 1 hour 57 minutes ground elapsed time. We now have acquisition with Madrid. Standing by, continuing to monitor. This is Skylab Control, Houston.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 14:35 GET 2:03 MC13/1

PAO Skylab Control, Houston, at 2 hours 7 minutes ground elapsed time. We've passed out of acquisition with Madrid tracking. The commanding by the booster systems engineer was verified. The commands did get in; however, we still have no indication of deployment of the orbital workshop solar array system wings. It is known, of course, that the commands did get in. At the present time, however, with the Apollo telescope mount solar array system deployed successfully, we do have a power system to support the vehicle. We're now at 2 hours 8 minutes ground elapsed time and this is Skylab Control, Houston.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 CST 15:12 GET 2:41 MC18/1

PAO This is Skylab Control. Two hours 41 minutes ground elapsed time in the mission of Skylab 1. Skylab space station now in orbit, coming up on the Honeysuckle, Australia, tracking station. Still some doubt in the minds of Flight Controllers here in Mission Control as to whether the main solar panels on the workshop have indeed deployed. They have had no confirmation on the ground from telemetry that this is the case; the solar panels on the telescope mount have deployed normally. Also, the micrometeoroid shield around the workshop has partially deployed. The large wings of three sections of solar panels on each wing, one on each side of the workshop, generate anywhere from 51 to 125 volts depending on the Sun angle at the time. This power goes through chargers which in turn keeps storage batteries in the workshop built up to supply power throughout the mission, half of each orbit approximately is in darkness when no power can be generated by the solar panels. The two solar panel wings are deployed out to the side of the workshop, and each panel on the wings operates similar to a scissors action. It's spring loaded to extend the panels. We should be getting data now through Honeysuckle. We'll stand by for comments to the Flight Director from the Flight Controllers who are concerned with the workshop electrical power system, and relay this information as it - No change reported in the solar panel wing status.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 15:27 CST 2:56 GET MC19/1

PAO This is Skylab Control. Three minutes 2 hour - Three hours 2 minutes ground elapsed time, and the mission of Skylab 1. Skylab space station now being tracked by the Hawaii tracking station. Waiting for the systems engineers to report the space station status back to the Flight Director as the data comes in.

PAO It appears that a plan will be formulated later on in the day and this evening by which the existing available power coming into the Skylab workshop will be conserved to the greatest extent, on the assumption that we may not be able to get the main solar panels deployed. We'll continue to standby the remainder of the Hawaii pass, which is a fairly low elevation angle. Coming up in a few moments to Goldstone, in approximately 5-1/2 minutes for a fairly lengthy stateside pass over the tracking stations in the continental United States. At 3 hours 5 minutes ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 15:41 CST 03:10 GET MC20/1

PAO This is Skylab Control, 3 hours 10 minutes,
ground elapsed time. Acquisition of signal over Goldstone
Tracking Station for the second stateside pass after launch.
We'll stand by here as the data comes in for any further
developments in the situation in which the main solar panels
on the workshop apparently have not deployed.

END OF TAPE

SKYLAB MISSION COMMENTARY 4/14/73 15:56 CST 3:24 GET MC-21/1

PAO This is Skylab Control. Three hours 31 minutes, ground elapsed time. Skylab space station presently crossing over the combined coverage of Canary Island tracking station and Madrid, Spain, tracking station. Flight Controllers, here, continuing to assess the possible effects on the mission on the apparent nondeployment of the large solar panels on the workshop. As the afternoon and evening wears on, there likely will be some considerable amount of sorting out as to what course should be taken to get the most out of the mission. As these facts develop, as the plans are worked out, they will be relayed on over the circuit at 3 hours 32 minutes, ground elapsed time, with some 5 minutes and a half remaining over Madrid. And, standing by; this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 15:00 CST 16:10 GET 3:39 MC22/1

PAO This is Skylab Control, 3 hours 42 minutes, ground elapsed time. Skylab space station now over the hill from the Canary Island tracking station. Thirty-four minutes away from being acquired again by the Honeysuckle, Australia, tracking station. No further resolution at this time on the solar panel deployment problem, which likely will affect the course of the mission. As the planning develops, on how to best manage the mission for the maximum return, we'll bring these details to you on this circuit. And, at 3 hours 40 minutes, ground elapsed time, on the mission of Skylab 1, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 16:42 CST 4:11 GET MC-23/.

PAO This is Skylab Control. Four hours 14 minutes ground elapsed time - the Skylab space station mission. Here in the Control Center, the problems associated with the failure of the Saturn workshop solar panels to deploy are being discussed, at some length, by management and flight controllers. Preliminary telemetry indications are that there could have been a malfunction with one solar array beam fairing and the meteoroid shield, which could have led to such anomalies. These malfunctions are indicated to have occurred 1 minute and 3 seconds after lift-off, based on postlaunch examination of telemetry.

PAO The planned 28-day mission is not possible without deployment of the workshop main solar panels. Project officials are considering an alternate mission using the command service module power system to augment the limited power supply provided by the Apollo telescope mount solar panels aboard the workshop, through a system of managing the two power sources for the optimum usage. An announcement will be made as soon as these decisions have been reached. The decision on such an alternate mission is expected to be had by about 9:00 p.m. eastern daylight time, at which time a news conference will be held at the Cape. And it is expected that Skylab Program Director, Bill Schnieder, will take part. We're starting to get data, now, through the Honeysuckle, Australia tracking station. This is a rather low elevation angle pass of little over 4 degrees, or approximately - I stand corrected, 86 degrees, the max elevation on this particular pass, almost directly overhead, at Honeysuckle. Almost 9 minutes remaining in this pass across Honeysuckle station. We'll stand by on Skylab Control circuit for the Honeysuckle, followed by Hawaii, and the next stateside pass. At 4 hours 18 minutes ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 . 00 CST 16:57 GET 4:26 MC24/1

PAO This is Skylab Control at 4 hours 28 minutes ground elapsed time, as the Skylab workshop heads across the south-central Pacific toward the Hawaii tracking station - coming up in about 8 minutes over that station. To reiterate what was stated before about the current situation in the Skylab-1 mission, preliminary telemetry playback indications are there could have been a malfunction with one solar array beam fairing. That is the cover that is - that houses the solar array beam before it swings outward from the workshop itself. And the meteoroid shield, which could have led to the subsequent anomalies that have been witnessed this afternoon. And, namely, the failure of the large solar panels to properly deploy. The malfunction was measured to have taken place 1 minute and 3 seconds after lift-off, based on examination of the telemetry records and tapes played back post-launch. Now, the current posture in the mission is as follows: the planned 28-day mission is not possible without full deployment of the solar panels on the workshop. At the same time, all the other workshop systems and deployment sequences are fully nominal. Project officials are considering an alternate mission, using the power supply aboard the command service module to augment, or supply additional power to the workshop, through managing of the various electrical buses aboard. The ATM solar panels are deployed, and are generating power. This power supply, tied with that brought up by the command module when it docks with the workshop, would supply power for a reduced mission. However, an announcement will be made as soon as a decision on how the mission will be managed. This decision on alternate mission is expected by about 9 o'clock Eastern Daylight Time. Our news conference at Kennedy Space Center newsroom, with Skylab Program Director, Bill Schneider, will take place at this time. Five minutes out from Hawaii, and at 4 hours 32 minutes, ground elapsed time. This is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 17:12 CST 04:41 GET MC25/1

PAO This is Skylab Control, 4 Hours 48 minutes, ground elapsed time. Skylab space station now being tracked by the Goldstone tracking station in the Mohave Desert, California. No apparent change in the mission status at this time. The large solar panels on the workshop still undeployed. And among the considerations to be looked at later in the evening by the Mission Director and other members of management on the Skylab team, will be whether or not to launch Skylab 2 on schedule tomorrow, or to delay the manned mission until some later time, after a new flight plan for a shortened mission can be formulated and designed. At 4 hours 49 minutes, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 17:45 CST 05:14 GET MC26/1

PAO This is Skylab Control, 5 hours 14 minutes, ground elapsed time, in the mission of the Skylab space station, presently over the Canary Island tracking station. Some 3 minutes remaining until loss of signal, crossing over into Ascension Island tracking station coverage. At 5 hours and 9 minutes, ground elapsed time, it was reported that the Skylab workshop has settled down into solar inertial attitude, that is, that the Apollo telescope mount portion points at the Sun continuously. To recap again the current posture in this mission, it appears that a malfunction in one of the fairings covering the solar arrays on Saturn workshop may have malfunctioned at about a minute and 3 seconds after lift-off. Playback of the telemetry data has shown that there was an apparent malfunction of this fairing, also, the meteoroid shield malfunctioned at the same time. As it stands now, the planned 28-day mission for Skylab 2, still scheduled for launch tomorrow, at this time, would not be possible for the full 28 days without deployment of the workshop solar panels. Skylab program officials are looking at all of the alternate missions that would be feasible and possible to conduct. The main guiding factor would be the amount of electrical power available from the fully deployed, and presently generating Apollo telescope mount solar panels, put together with the power available from the command service module, when it docks with the cluster. The decision on whether to continue with a somewhat abbreviated mission tomorrow on schedule, or whether a delay is necessary to regroup, will be made later in the evening. Decisions on alternate missions, on an abbreviated mission, is expected around 9:00 eastern daylight time. A news conference with Skylab Program Manager, Bill Schneider, is expected to take place at 9:00 o'clock eastern time at the Kennedy Space Center newsroom. That is currently the status in the mission of Skylab 1, the Skylab space station. And at 5 hours 18 minutes, ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 1:10 CST 18:04 GET 5:32 MC27/1

PAO This is Skylab Control at 5 hours 32 minutes, ground elapsed time, in the mission of Skylab 1, currently over the southern tip of the African continent. There's been a change in the expected time of the press conference with Skylab Program Director, Bill Schneider, Cape Kennedy newsroom. It will now be no earlier than 10 p.m. eastern daylight time, instead of the earlier predicted 9 p.m. That is a 1 hour delay in the press conference with Skylab Program Director, Bill Schneider, at Kennedy Space Center newsroom. At 5:33, ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 18:45 CST 6:15 GET MC28/1

PAO This is Skylab Control, 6 hours 15 minutes into the mission of Skylab 1. A little over a minute, now, until acquisition at the Hawaii tracking station. A matter of interest on this pass on Hawaii will be some attitude excursions that were noticed just as we left Honeysuckle station, where the vehicle apparently drifted off inertial - solar inertial attitude. As we come across Hawaii, the gyros aboard the spacecraft and the spacecraft attitude will be examined closely by telemetry to see if the vehicle has returned to the desired attitude, or whether it's still drifting. To repeat again an earlier announcement, the press conference with Skylab Program Director, Bill Schneider at Kennedy Space Center newsroom has been delayed to no earlier than 10:00 p.m. eastern daylight time. That would be 9:00 p.m. central. We'll stand by here as the Skylab workshop attitude problem is sorted out during this Hawaii pass and the subsequent stateside pass. At 6:16 ground elapsed time, this is Skylab Control.

PAO This is Skylab Control. The guidance controller here in the control room has confirmed that the vehicle has returned to solar inertial attitude. However, there are some apparent problems in some of the gyros which control the spacecraft attitude. Flight controllers are continuing to sort out these problems at this time. Some 2 minutes remaining until we have loss of signal at Hawaii, 9 minutes out of Goldstone for a stateside pass on this fourth revolution of the Skylab space station. At 6:19 and standing by, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 20:15 CST 7:45 GET MC29/1

PAO This is Skylab Control, 7 hours, 44 minutes ground elapsed time. Skylab orbital workshop presently over the Guam tracking station, with some 5 minutes remaining during this pass over the Western Pacific. Skylab Program Director Bill Schneider has issued the following statement. "The launch of Skylab 2, the manned launch, has been recycled for 5 days to Sunday, May 20, because of the incidents which occurred during the Skylab 1 deployment. The recycling will permit further evaluation of alternative flight plans to maximize scientific returns from the Skylab mission." Program Director Bill Schneider will hold a press conference at 9 p.m. central daylight time at Kennedy Space Center newsroom. At the Houston end, the Flight Director, who has been on the flight director console during most of the day, Don Puddy, will take part in the small briefing room in the building 1 news center at Johnson Space Center. To repeat the statement issued by Skylab Program Director Bill Schneider: "The launch of Skylab 2 has been recycled for 5 days, to Sunday, May 20, because of the incidents which occurred during Skylab 1 deployment. This will permit further evaluation of alternative flight plans to maximize scientific returns from the Skylab mission." Some 45 minutes away from the press conference, 9 p.m. central, 10 p.m. eastern daylight time, with participants at Houston and Kennedy Space Center. We understand that the prime crew of Skylab 2, will return to Houston tomorrow. At 7 hours 47 minutes, ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 20:47 CST 08:15 CET MC30/1

PAU This is Skylab Control, 8 hours 15 minutes, ground elapsed time, in the Skylab 1 mission. Skylab orbital workshop presently over the Texas tracking station, nearing the end of the fifth Earth orbit. Reminder to newsmen, both at Kennedy Space Center and Houston, some 15 minutes away from a press conference, which will have participants at both ends, Houston-Cape line. Skylab Program Director Bill Schneider will be at Kennedy Space Center; Flight Director Don Puddy and Gene Kranz, who's chief of the Johnson Space Center Flight Control division will take part in Houston. The oncoming Flight Director, Milt Windler, went around the room, talking to the flight controllers and asking them to examine ways to get the most out of a reduced power situation for the modified mission, which will be resumed on the delayed launch of Skylab 2. To repeat the earlier statement by Skylab Program Director Bill Schneider, "The launch of Skylab 2 has been recycled for 5 days to Sunday, May 20, because of the incidents which occurred during Skylab 1 deployment. This will permit further evaluation of alternative flight plans to maximize scientific return from the Skylab mission." The prime crew for Skylab 2 will return to Houston, Tuesday morning. Thirteen minutes until the press conference starts and at 8 hours 18 minutes, ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 23:00 CST MC31/1

PAO This is Skylab Control. Ten hours 30 minutes ground elapsed time. The mission of Skylab 1 presently off the southern tip of the African continent and the island of Madagascar. At the beginning of the seventh earth orbit or revolution, which ever term you prefer. The cabin pressurization sequence, which had been underway, has been terminated for the time being to allow some thermal responses to balance out. We have no estimate yet as to when the pressurization will be resumed. But at the time the sequence was stopped over the Vanguard tracking ship which is hove to off the southeast coast of South America, the pressure was at 1.9 pounds in the habitable area of the Skylab space station. We're some 51 minutes out now from the next station which will be Goldstone. The next two REVs, there will be only Hawaii and Vanguard which will track the spacecraft. Flight director Milt Wandler is having numerous conversations with the individual flight controllers and sorting out how best to manage the resources available. Still tracking the gyro problems in the ATM guidance system. And at 10 hours 32 minutes ground elapsed time this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/14/73 2350CST MC32/1

PAO This is Skylab Control at 11 hours 20 minutes. During the last few minutes here in Mission Control, Flight Director Milton Windler has accepted a recommendation from the Marshall Space Flight Center to make an attitude change in the Skylab workshop. This change will, in effect, change the attitude or the angle at which the Sun is shining on the side of the workshop. Now what we're finding is that as a result of the loss of the micrometeorite shield or panels, the thermal characteristics of the workshop now are different than had been planned. Normally, with those micrometeorite shields in place, they are coated with a coating that reflects sunlight. The workshop itself is not coated with the same reflective materials. Consequently, the amount of solar energy absorbed is higher and we're watching an increase in the temperature. There is no concern in that temperature increase at the present time, but in order to keep it from going beyond acceptable limits, the workshop will be placed in an attitude that directs the Sun more toward the end of the vehicle, the end at which the command module would be docked once the rendezvous and docking is accomplished. At the present time, the workshop is in an attitude with the Sun shining directly on the solar panels of the ATM, the Apollo telescope mount, this also places the Sun shining directly on the side of the workshop. The plan is to pitch up about 90 degrees, again placing the Sun more toward the end of the multiple docking adapter, to stay in this attitude for one revolution and then to pitch back 45 degrees in a compromise attitude which continues to reduce the amount of solar energy absorbed by the workshop, but also places the solar panels in more of an opportune position to provide the electrical current necessary for operating the vehicle and reducing any unnecessary drain on the batteries. This maneuver is going to be performed over Goldstone. We're about 15 seconds now from regaining radio contact with the workshop over the Goldstone tracking station. It will take about 13 minutes maneuvering with the attitude control system to place the vehicle in the desired attitude. We're standing by for confirmation that the attitude change has begun. We expect that to begin momentarily. This is Skylab Control, we have a relatively low elevation pass over Goldstone; we're waiting for a good solid telemetry lockup before the command is initiated to begin that attitude change. We're getting solid data now and we're getting a recommendation to go ahead and attempt to command the attitude change. We have about 1-1/2 minute of acquisition remaining at Goldstone. Once this command is initiated, the 13 minute maneuver is an automatic maneuver. This is Skylab Control, we've had loss of signal through Goldstone without getting the command initiated to make that attitude change. We did not get the solid data from the ATM that we thought we needed to initiate that maneuver,

SKYLAB I MISSION COMMENTARY 5/14/73 CST 23:50 MC32/2

and we'll take a look at the situation over Vanguard, however, scheduled to acquire there in about 17 minutes. And we'll attempt to get the necessary data lockon and get the command initiated at that point. This is Skylab Control at 11 hours 31 minutes.

END OF TAPE

SKYLAB I MISSION COMMENTARY 5/15/73 CST 00:15 GET 135:05:15 MC-33/1

PAO This is Skylab Control at 11 hours 45 minutes. Now, we have reacquired the workshop over the tracking station at Vanguard. And, we're standing by to confirm we've got good data. Valid data will allow flight controllers here in Mission Control to send the proper command to initiate an attitude change maneuver. This maneuver again will be - it's about a 13 minute maneuver using the thruster attitude control system on the workshop. Pitching up 90 degrees, this will change the angle at which the Sun is striking the side of the workshop, an attempt to control the temperatures in the vehicle. We do now have confirmation that we've got attitude data, and that the attitude looks good on the orbital workshop.

PAO We've got a confirmation now of good solid lockup on the data.

PAO This is Skylab Control. We again have intermittent data and Flight Director Milton Windler has elected to hold the maneuver until we've got solid data. We have about 6 minutes remaining in this pass over the tracking ship Vanguard.

PAO This is Skylab Control. We have a little less than 1 minute of acquisition time remaining over Vanguard. And, we have not at this point resumed solid enough data lock to go ahead with the commanded maneuver change for the workshop. And we will be reacquiring in about an hour at Hawaii. During this pass over Vanguard, the instrumentation communications engineer has been going through a number of troubleshooting procedures to determine the nature of the data problem, to tie it down to either an onboard or a ground station problem, and to determine the proper workaround, as they say. And we now show that we've had loss of signal at Vanguard, we're predicting acquisition at Hawaii in 58 minutes 26 seconds. This is Skylab Control at 11 hours 55 minutes.

END OF TAPE

PAO This is Skylab Control at 12 hours 56 minutes. We have now acquired the orbital workshop on its eighth revolution over the Hawaii tracking station. We have good solid data and we've commanded the start of the maneuver which will change the spacecraft attitude - the workshop attitude for improved thermal control. And that maneuver is scheduled to require about 13 minutes. We have a report that it is progressing smoothly at this time. And we have about 4 minutes 45 seconds of acquisition remaining at Hawaii. We will be reacquiring at Vanguard about 21 minutes after we lose contact in Hawaii. The attitude control change, the attitude change that is being made at this time, is to place the Sun more end-on to the spacecraft. The normal attitude has the ATM, the Apollo telescope mount, solar panels pointed directly at the Sun. This also has the Sun shining directly on the side of the orbital workshop. Without the micrometeoroid panels, which have a thermal coating on them to reflect solar heat - solar energy, we're finding some increases in temperature within the workshop. As a means of getting an assessment of this temperature increase and controlling it, the attitude change is being made. The plan is to leave the spacecraft in the pitched up attitude, pitching up 90 degrees from the present attitude, leaving it in this position for 1 revolution; then pitching back to an attitude midway between the initial attitude and the pitched up attitude and holding it there for one revolution, and then returning to the normal attitude with the ATM solar panels again pointed directly at the Sun. This maneuver is being accomplished with the thruster attitude control system, controlled by the ATM.

PAO This is Skylab Control. We've lost radio contact now with the spacecraft as it passes over the horizon from the Hawaiian tracking station. And we'll be reacquiring in about 20 minutes over the tracking ship Vanguard in the south Atlantic off the coast of South America. Over Hawaii we had good solid data. We commanded the orbital workshop to begin an automatic attitude change. That maneuver was progressing smoothly as we lost radio contact. It will go to completion. The total maneuver is scheduled to take about 13 minutes, and we'll be able to confirm the new attitude over Vanguard. At the present time, our plan is to discontinue commentary operations following the Vanguard pass. The Houston News Center is scheduled to reopen at 6 a.m., at which time commentary operations will be resumed. This is Skylab Control at 13 hours 4 minutes.

END OF TAPE

PAO This is Skylab Control. The orbital workshop now is starting its 9th revolution of the Earth. And, we've just completed a 9 minute pass over the tracking ship Vanguard. During that pass we received solid telemetry data from the spacecraft, and verified that the vehicle had maneuvered to the desired attitude, pitching up 90 degrees from the normal attitude at which the ATM solar panels are pointed directly at the Sun. The new attitude has the multiple docking adapter end of the vehicle pointing at the Sun. The ATM solar panels are parallel to the Sun's rays and receiving little or no solar energy. During this period of time, the vehicle is being powered from stored battery power. We plan to stay in this attitude for 1 revolution, allowing the temperatures to drop on the orbital workshop. These temperatures running higher than normal, due to the apparent loss of the meteoroid panels, which in addition to protecting against meteoroid impacts, also have an effect on the way in which the vehicle absorbs and radiates thermal energy from the Sun. And we're seeing, consequently, an increase in temperatures. Engineers here in the Control Center and in the Marshall Space Flight Center are interested in watching the temperature curve as the temperatures come back down to determine the total amount of thermal energy absorbed by the workshop. During this period of time, the pressurization of the orbital workshop has been terminated; we're holding at 2 pounds internal pressure. And once we've gotten a better indication of what the total thermal energy absorbed by the workshop is, we'll continue that pressurization up to the desired 5 pounds per square inch. The plan again, is to hold at the current attitude for 1 revolution and then to pitch up to an intermediate attitude where we're about 45 degrees pitched up instead of the current 90 degrees. At a 45 degree angle, it'll be a compromise attitude with some solar energy being supplied striking the solar panels, and a portion of the energy, still supply electrical energy still supplied by the batteries, staying in this attitude for 1 revolution before returning to the normal attitude with the ATM solar panels pointing directly at the Sun. At this time we will terminate commentary operations. The Houston News Center will also be closing at this time. We will be reopening at 6 AM. This is Skylab Control at 13 hours 36 minutes.

END OF TAPE

SKYLAB I MISSION COMMENTARY 5/15/73 CST 06:53 GET 18:23 MC-36/1

PAO This is Skylab Control. Eighteen hours, 23 minutes since Skylab 1 lift-off. Skylab attitude control has just been shifted to the control moment gyros. Skylab now over the Vanguard tracking ship on the 12th revolution of the Earth. Prior to this time, attitude control has been provided by the thruster attitude control system, the RACS. The control moment gyros are fully spun up now, and just a few minutes ago, additive control was transferred to the gyros. Temperatures on structural members in the orbital workshop continue to run near or slightly in excess of 100 degrees. The orbital cluster was taken out of the solar inertial attitude for two revolutions during the night to allow readings from several temperature sensors which had gone off the scale. This temperature data is being used by the Marshall Space Flight Center in a thermal model in an attempt to determine how serious the problem is and to develop a plan to manage the thermal profile. Skylab, now, is back in a solar inertial attitude. The ATM telescope is unpowered at the present time, and the cluster pressure is holding at 1.9 pounds per square inch - decision having been made that there is no reason at this time to go to the full 5-PSI pressure. At 18 hours 25 minutes, ground elapsed time, this is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/15/73 7:35 CST 19:05 GET MC37/1

PAO This is Skylab Control at 19 hours
4 minutes since Skylab 1 lift-off. Flight director
Neil Hutchinson, who has been leading the overnight shift
of flight controllers monitoring the Skylab workshop,
will hold a status briefing in the small briefing room
at the Johnson Space Center News Center at 8:15 a.m. central
daylight time; 8:15 a.m. central daylight time, briefing
by Neil Hutchinson, flight director on the overnight shift.
We've been informed that the Skylab 2 crew plans to leave the
Kennedy Space Center at 9 a.m. central daylight time for
their return to Houston. This is Skylab Control.

END OF TAPE

SKYLAB MISSION COMMENTARY 5/15/73 1:20 CST MC38/1

PAO This is the Skylab News Center at KSC. The engineering investigation of the inflight anomaly for Skylab and the effect on subsequent mission activities continues at the Marshall Spaceflight Center in Huntsville, Alabama. No new information has been uncovered which reveals the cause of the failure of the micrometeoroid shield during launch and the apparent subsequent fouling of the workshop solar array. The data continues to be analyzed by the engineering team. The data is somewhat incomplete in real time, since some of the events occurred between station passes and the tape telemetry data must be dumped at a ground station, processed and then analyzed. The analysis of the thermal and electrical systems effects continues on an intensive basis. The ATM solar arrays continue to work properly and there is no significant change in the status of the workshop solar panels. They are still in a partially extended position with no new estimate of the extent of their deployment. The thermal condition of the spacecraft is more troublesome than had been anticipated last evening. The meteoroid shield, in addition to providing a protection against small punctures, was painted in such a manner to provide a temperature balance in the spacecraft on the external skin. The two effects have been found to have contradictory mission requirements; that is to maximize the electrical power available, it's desired to point the solar arrays at the Sun constantly; however, this is the cause, this causes the skin of the now unprotected OWS to heat up excessively. Engineering evaluation and computer analysis is currently under way to find an optimum combination of solar oriented and nonsolar oriented orbit. The flight support team at JSC and MFSC, that's Johnson Space Center and the Marshall Space Flight Center, are continuing in their tasks of trying to develop an optimum flight plan for Skylab 2. Obviously the experiment activity which will be possible depends upon the resolution of the electrical and thermal questions. These resolutions are expected prior to the launch of Skylab 2 now scheduled for Sunday, May 20, 1973, at approximately 11 a.m. eastern daylight time. Preparations at the Kennedy Space Center are proceeding accordingly. By Saturday afternoon a full understanding of the technical situation will be available and an assessment of the mission impact will be made. The decision to launch or not to launch will be made at that time. Skylab Program Director, William Schneider, will be available at the Kennedy Space Center auditorium for a brief news conference at 3 p.m. eastern daylight time today, that's a little over a half an hour from now. The Skylab Program Director, William Schneider will be available for a brief news conference at the News Center at KSC today.

END OF TAPE

SKYLAB MC-39

Time: 1457 CDT, 10226 GET

5/15/73

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PAO This is Skylab Control, at a GMT of 19:56. Here in the Mission Control Center an interim operating plan has been evolved by which two of the four flight control teams will work two twelve hour shifts from 7:00 a.m. to 7:00 p.m. and then from 7:00 p.m. to 7:00 a.m. While the other two teams are involved in planning in other areas of the building, planning what can be done to best exploit the mission, get the most out of it. Flight Director, Don Puddy, will, and his team, will pull the 7:00 a.m. to 7:00 p.m. shift each day between now and the launch of Skylab 2. Milt Windler's team will have the overnight from 7:00 p.m. to 7:00 a.m. That's teams one and three. Teams four and two headed up by Phil Shaffer and Neil Hutchinson, will be involved in planning in the back rooms and in other areas of Johnson Space Center. Our present estimate now for a change of shift briefing with Flight Director Don Puddy will be after he is relieved by Milt Windler. That would be at sometime after 7:00, perhaps around 7:30 p.m. in the JSC News Room small briefing room. The Flight Operations Management Room, down the hall from the main control room here, is developing a thermal management plan in case some of the workshop temperatures begin to rise uncomfortably high. And maneuvers again perhaps would have to be made to stabilize the temperatures later on in the evening. To repeat again, the estimate now for a change of shift briefing with Flight Director Don Puddy is for 7:30 approximately central daylight time in the Johnson Space Center News Room. At Greenwich mean time at 19:58, this is Skylab Control.

END OF TAPE

SKYLAB MC-40

Time: 1600 CDT, 1:03:29 GET

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PAO This is Skylab Control, 2100 GMT. Some current numbers on Skylab space station, which is now some 4-1/2 minutes out of the Honeysuckle, Australia tracking station. The current measurement of the Skylab orbit shows a perigee of 235.6 nautical miles, apogee of 237.1 nautical. Orbital period, 1 hour 33 minutes and 10 seconds, current velocity 25,096 feet per second. Total weight of the cluster at the present time, 169,414 pounds. Here in the Control Center, as mentioned earlier, the 2 off-shift control teams, flight control teams, are examining various aspects of mission planning, to live with the situation of the Skylab workshop. Similar work in the technical field is being done at Marshall Space Flight Center, Huntsville, Alabama. Numerous communication loops between the 2 centers are being used to - for conferences and exchange of information. The 2 teams of flight controllers here in Houston are - have been charged with numerous task items to look into. The best way to manage the power profile or available electrical power, and whether or not, for example, to soft or hard dock with the workshop when we do launch Skylab 2. Over the next several days the plan for the rendezvous, and docking of Skylab 2 with the orbiting workshop will emerge. And at 2103 GMT, this is Skylab Control.

END OF TAPE

SKYLAB MC-42

Time: 1800 CDT; 1:05:31 GET

5/15/73

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PAO This is Skylab Control at 2301 Greenwich mean time. Skylab space station about a minute out of the Hawaii tracking station over the mid-central Pacific. At the present time the situation on the gaseous nitrogen used in the Thruster Attitude Command System, is that approximately 18 per cent has been used at this time. This is still comfortably above the experiment requirements or margins. Normally about 8 percent would have been used at this point in the mission. This gaseous nitrogen is stored in 22 titanium spheres, each of which hold 4-1/2 cubic feet of nitrogen, which are around the base of the workshop. On the rate gyro problem that was experienced earlier, 8 of the 9 rate gyros are now operating normally. One of the 3 that register in the, so-called, Y-axis is not functioning properly. However, 2 of the 3 are dependable now. We're on the Primary Attitude Control System, no longer using the TACS or the Thruster Attitude Control System, which used the gaseous nitrogen mentioned earlier. Current orbital measurements, perigee 236.4 nautical miles, apogee 236.7. And at 23:03 Greenwich mean time, this is Skylab Control.

END OF TAPE

SKYLAB MC-43

Time: 19:00 CDT 1:06:31 GET

5/15/73

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PAO This is Skylab Control at 0001 Greenwich mean time. And the mission of Skylab 1, Skylab space station now over the southwestern Indian Ocean, on the nineteenth Earth orbit. Next station to acquire will be at Carnarvon, Australia in 11 minutes 57 seconds from now. The last stateside pass, all the spacecraft systems appeared to be operating normally, with the exception of course of the power generating system which is dependant on the undeployed solar panels. On this upcoming stateside pass, on this revolution, people in the Houston area, if they're lucky and there's no cloud cover and they happen to be looking in the right direction, might possibly see Skylab at 7:59, starting at 7:59, crossing the northern sky from north to east for a total of 4 minutes 32 seconds. Maximum elevation 16 degrees. The spacecraft will be some 756 miles slant range from Houston. One revolution later, at 9:35 p.m., that's probably a better likelihood of spotting the Skylab space station as it crosses from northwest to southeast, for a total pass of 6 minutes 37 seconds. The maximum elevation is 44 degrees with a slant range of 375 miles. Current estimate on a change of shift briefing with Flight Director Don Puddy is still hanging in at around 8:30 p.m. central daylight time, in the Johnson Space Center News Room. If an earlier estimate comes along we'll relay that as soon as possible, but right now Don Puddy estimates that would be the earliest he could make it to the News Room after handing over to another Flight Director Milt Windler. The Skylab trajectory staying fairly constant at around 235, 236 circular. Velocity 25,095 feet per second. And at 0004 Greenwich mean time, this is Skylab Control.

END OF TAPE

SKYLAB MC-44

Time: 2000 CDT; 1:07:30 GET

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PAO This is Skylab Control, 01:00 Greenwich mean time. Skylab space station now over the mid-western United States, nearing the end of the 19th Earth orbit. All seems to be going well now with the space station as far as attitude control and thermal balance. The marooned team of flight controllers headed up by Milt Windler is on duty now in the control center, and throughout the next 12 hours, we'll continue to sort out the various courses of action that could be recommended or somewhat modified in mission. A reminder to both news centers: an estimate is still for 8:30 central daylight time for a change of shift briefing with Flight Director Don Puddy, in the small briefing room. Skylab Control is going off the air at this time, and we'll come back up tomorrow morning. And at 01:01 Greenwich mean time, this is Skylab Control.

END OF TAPE

SKYLAB MC-45

Time: 7:00 CDT, 18:30:00 GET

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PAO This is Skylab Control. Twelve hundred hours Greenwich Mean Time. Skylab Space Station crossing the east coast of China, out into the western Pacific. And now being tracked by the Guam Island tracking station. Current measurements on the Skylab orbit: 236.1 at perigee and 238.1 nautical miles at apogee. During the past twelve hours of this shift the attitude system on Skylab has been performing quite well. And in the modified passive thermal control mode scheme here the attitude has been modified periodically by ground command to change the temperature, to get the temperature down to a better balance by alternating from the solar inertial attitude to one somewhat away from a Sun-oriented attitude. It may take several revolutions to really pin down what the net effect of this modified passive thermal control mode is. The so called passive thermal control used in Apollo was a slow rotation to barbecue the spacecraft during the transearth and translunar coast periods. It appears at this time that there will not be a change of shift briefing with the off coming Flight Director Milt Windler who was rather reluctant after 12 hour stint to stay out of bed any longer. So at 12:02 Greenwich Mean Time this is Skylab Control.

END OF TAPE

SKYLAB MC-46

TIME: 08:00 CDT, 19:30 CET

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PAO This is Skylab Control 1300 hours Greenwich Mean Time. Skylab Space Station over the Central Atlantic, crossing over in less than a minute into acquisition by the Canary Island Tracking Station. And we'll pass over the Iberian Peninsula, Southern France, Switzerland, across Eastern Europe, European Russia, and Central Asia before starting the descending mode across the sub-continent of India. At the current time, the temperatures aboard Skylab are fairly well staying in the low hundreds in the interior temperature readings. One of the scientific airlock sensors is showing readings in the 150 degree Fahrenheit range. Skin temperatures exterior to the vehicle are continuing to run rather high between 250 and 300 degrees. One way this is being off-set and modified somewhat is by tilting the spacecraft periodically away from the solar inertial attitude. And the resulting curves of the temperature plot look rather like a saw with teeth. As reported earlier there will be no change of shift briefing, as such, with the off-going flight director, who is rather beat after 12 hours. However, one of the offline flight directors, Chuck Lewis, who has been conducting some of the contingency planning on how to run the mission, what problems need to be intact. We'll appear at the Houston News Center, at about 9:30 Central Daylight Time to discuss the offline planning activities. Some 7 minutes remaining in Canary Islands crossing over to Madrid Station; almost directly over Madrid. At 13:03 Greenwich Mean Time, this is Skylab Control.

END OF TAPE

SKYLAB MC-47

TIME: 09:00 CDT, 01:20:30 GET

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PAO This is Skylab Control. Fourteen hundred hours Greenwich Mean Time. Skylab space station presently in the South Central Pacific just east of New Zealand. We'll start on it's 27 - near the end of it's 27th revolution some 31 minutes out of the Bermuda tracking station across the northern portion of the South American continent. And in each succeeding revolution will begin a series of stateside passes during the later morning. On the next cycle of moving out of the solar inertial attitude over to what is called Z-local vertical, in other words looking down at the surface of the Earth, the space station will not be brought all the way back to solar inertial but will stay offset approximately 55 degrees. The flight controllers will then watch the temperature readings to see if perhaps this offset will have some effect on bringing down the temperatures until the crew gets up to the space station and can make some sort of fix. We're still estimating approximately 9:30 central daylight time on the briefing by one of the offline flight directors, Chuck Lewis, in the Johnson Space Center news room. At 14:02 Greenwich Mean Time this is Skylab Control.

END OF TAPE

SL-1 MC-48/1

Time: 10:00 CDT, 01:22:30 GET

5/16/73

PAO This is Skylab Control. Sixteen hundred hours GMT. Skylab space station nearing the end of its 28th Earth orbit. We'll cross the Central American - yes, Central America portion and at Cuba very shortly to start the 29th revolution. Currently Skylab is in an orbit almost circular of 235.8 at perigee about 236.7 nautical miles apogee. It takes an hour and 33 minutes and 17 seconds to make one circuit, one orbit from Cape longitude crossing back around again. Two minutes away from acquisition by the Texas and three minutes away from MILA station acquisition. And at 16:01 Greenwich mean time this is Skylab Control.

END OF TAPE

SL-1 MC-49/1
Time: 12:00 CDT, 01:23:30 GET
5/16/73

PAG This is Skylab Control at 1700 hours,
Greenwich mean time. We're on the 29th rev in contact with
the Carnarvon site at the present time. Pete Conrad and his
prime crew today are in the Skylab simulator over here in
Houston practicing a Skylab fly-around SIM and a rendezvous
SIM. The backup crews are working with some JSC engineering
and flight control task teams by telephone on some of the
Skylab 1 problems. At 1 day, 23 hours, 30 minutes, and
56 - 58 seconds elapsed time in the Skylab 1 launch, this is
Skylab Control.

END OF TAPE

SL-1 MC-50/1

TIME: 13:00 CDT, 2:00:30 GET

5/16/73

PAO This is Skylab Control; 1800 hours Greenwich mean time. Skylab space station now crossing the northeastern coast of France on the 30th revolution, being tracked by the Madrid station. Cabin pressure aboard the Skylab - workshop is holding between 4-1/2 to 5 pounds. Internal temperatures by the various sensors range in the low hundreds, that is around 115 to 120 in most locations. At the scientific airlock the temperature is ranging from 170 to 190 degrees Fahrenheit. External scan temperatures are running between 240 and 300 degrees. Battery temperatures in the power system - the electrical power system are running around 30 to 40 degrees. And sensors on the ATM Apollo telescope mount solar panels show temperatures of 90 to 100 degrees. Rather quiet here in the Control Center midway through the 12-hour shift. Flight Director Don Puddy continuing to direct his team of flight controllers and managing the spacecraft systems. The guidance attitude control system still operating normally. We've not been on the thruster attitude control or TACS systems since sometime yesterday. The quantities remaining of the gaseous nitrogen used in the TACS system is still hanging at about 82 percent. And at 18:02 Zulu, this is Skylab Control.

END OF TAPE

SL-1 MC-51/1

Time: 13:45 CDT, 02:01:08 GET

5/16/73

PAO May I have your attention, please?
Glenn Schneider, the Skylab program manager, will be available
to answer questions from the Press at 5:00 PM eastern day-
light time today. We'll have two A audio hookups between
the Skylab News Center at KSC and the Skylab News Center
at JSC. This will emanate from the Marshall Space Flight
Center in Huntsville, Alabama. That's at 5:00 PM eastern
daylight time this afternoon.

END OF TAPE

SL-1 MC-52/1

Time: 14:00 CDT, 2:01:30 GZT

5/16/73

PAO This is Skylab Control at 1900 hours GMT. Skylab 1 currently is over the waters of the Pacific heading toward the Goldstone tracking site. Expect to acquire the unmanned vehicle in approximately 13 minutes and 50 seconds. On this pass the unmanned vehicle will be heading across the good old USA in a northerly direction passing over the Great Lakes. A reminder to news media. William C. Schneider, Skylab program director, will be available to answer questions from the press at approximately 4 p.m. Houston time via two-way audio hookups between the Skylab News Center at KSC, the Johnson Space Center at Houston, and the Marshall Space Flight Center in Huntsville. At 1900 hours 1 minute Zulu, this is Skylab Control.

END OF TAPE

SL-1 MC-53/1

Time: 15:00 CDT, 2:02:30 GET

5/16/73

PAO This is Skylab Control; 2000 hours Greenwich mean time. Skylab space station presently over the Malagasy Republic on the island of Madagascar on revolution number 31. Currently the Skylab has an orbit measuring 235.3 nautical miles by 238.4. Velocity currently 25,094 feet per second. Orbital period 1 hour 33 minutes 23 seconds. The Skylab is gradually drifting back to the solar inertial attitude. So it may be necessary later on in the day to do a small maneuver to re-introduce the offset from the direct solar inertial attitude to reduce heating on the spacecraft. The spent S2 stage which boosted the Skylab space station into orbit is now out ahead of Skylab by some 4700 nautical miles. In the Houston area tonight there will be a likelihood of - a fairly good likelihood actually of spotting Skylab at 8:52 central daylight time, when the space station will cross from northwest to southeast at maximum elevation of 79 degrees and a slant range of 275 nautical miles - statute miles, I beg your pardon. At 20:02 Zulu, this is Skylab Control.

END OF TAPE

SL-1 MC54/1

Time: 19:30 CDT 02:07:00 GET

5/16/73

PAO This is Mission Control at 31 minutes and 9 seconds after the hour. Flight Director Don Puddy has handed over to Milt Windler's team. The offgoing report - it's now in the 34th revolution of Skylab. The spacecraft is traveling on a descending node. Traveling off the Atlantic Coast of South America. Don Puddy reports before going off that attitude modification to achieve thermal stability has shown indications of success. Temperature levels have been dropping in the spacecraft, although rather slowly. They have moved from 45 degrees through 50 degrees and are traveling at 55 degree pitch, to a Z inertial, and they are now also doing some work in the back room on possible structural cleanup for an EVA, structural cleanup on the SAS particularly. They are planning on providing tools, including a long pole with a hook and a cutting device to remove external debris from the spacecraft. This would be done on a standup EVA. The temperatures inside the spacecraft right now vary widely from the area back in the MDA, where they are approximately 55 degrees through approximately 108 degrees, and in the ceiling of the experimental compartment. Temperature right now in the ceiling of the wardroom is approximately 99.9 degrees. There will be a press conference held at - between somewhere between 8:15 and 8:30, with Flight Director Don Puddy, and there will also be at the press conference, a representative of Marshall Space Flight Center, either Jack Waite or Bob Pace. This is Mission Control at 32 minutes and 47 seconds after the hour.

END OF TAPE

SL-1 MC-55/1

Time: 2000 CDT; 2:07:31 GET

5/16/73

PAO This is Skylab Control at 1 minute and 20 seconds after the hour. Spacecraft is now beginning its ascending node across the Indian Ocean. This is the 34th revolution. It will pass across the area of Houston, and across the west coast of the United States. We're still looking for our press conference at approximately 8:15 with Don Puddy and a representative of the Marshall Space Flight Center. The mission seems to be going very well, temperatures have cooled down somewhat and stabilized at approximately 105 degrees on the internal metal surfaces of the solar side of the workshop, and there are some lower temperatures inside. This is Skylab Control at 1 minutes and 55 seconds after the hour.

END OF TAPE

SL-1 MC-56/1

Time: 07:00 CDT, 02:18:30 GET
5/17/73

PAO This is Skylab Control at 1200 hours GMT. The Skylab space station currently is crossing the west coast of South America beginning the 41st revolution. Skylab 1 presently has an orbit measuring 238.4 nautical miles by 235.3 nautical miles. Space station is speeding through the heavens at 25,094 feet per second. It's orbital period is 1 hour 33 minutes and 23 seconds. For the next 4 minutes and 15 seconds we'll be in contact with the space station via the Vanguard tracking ship. The space station orbit above Earth is in what we call the Z local vertical, in other words, one end is looking down at the Earth's surface offset by approximately 50 degrees. Through the night the team on duty under flight director Milt Windler have been monitoring the systems. They report that the internal temperatures have remained relatively stable in the 110 degree range. At 2 minutes past 7 Central Daylight Time this is Skylab Control.

END OF TAPE

SL-1 MC-57/1

Time: 08:00 CDT, 02:19:30 GET
5/17/73

PAO This is Skylab Control at 1300 hours Greenwich mean time. Skylab space station is over the Philippine Islands at the present time. And we are about 5-1/2 minutes from acquisition of signal at the Honeysuckle tracking station. Don Puddy's crimson team of flight controllers have moved into the chairs vacated by Milton Windler's team and have taken over. And are monitoring temperatures and systems which seem fairly well to have stabilized at this time. A reminder that we will have a press conference at Houston in the News Center briefing room at 9 a.m. central daylight time with George B. Hardy, Chief of Systems Engineering and Integration at the Skylab Program Office, Marshall Space Flight Center in Huntsville. Mr. Hardy will be in the News Center in Houston to give a summary of what transpired last night, as far as the space station was concerned, and to respond to any inquiries from news media representatives. At 13 hours 1 minute Greenwich mean time, this is Skylab Control.

END OF TAPE

3L-1 MC-58/1

Time: 10:00 AM CDT, 2:21:30 GET

5/17/73

PAO This is Skylab Control; 1500 hours GMT. The Skylab space station is nearing the end of the 42nd revolution out over the vast Pacific. Skylab has an orbit, at the present time, measuring 237.6 nautical miles by 235.6 nautical miles; traveling at a speed of 25,099 feet per second. And its orbital period remains the same at 1 hour 33 minutes and 23 seconds. Flight Director Don Puddy earlier was in conversation with some of the flight controllers here; talked to the biomedic and asked him how the food temperatures looked. And the response to his questions, relating to the food in the freezers and the dry food, was that they appear to be in good shape. ATM is tending to stable out. As related to crew activities, today, Dr. Joseph Kerwin and Rusty Schweickart are at the Marshall Space Flight Center. They are working out procedures using the water emersion facility - EVA procedures, that is. Story Muskgrave will join them a little later today and assist in their operation. Prime crew commander, Charles "Pete" Conrad, is in the CSM simulator here at the Johnson Space Center, undertaking some stationkeeping and formation flying techniques. And in this case, he is in a pressurized suit. Paul Weitz, assisted by Astronaut Dave Scott and Ron Evans, is involved in a procedure erecting a shade on a standup EVA. This activity is taking place, again, at the Johnson Space Center. And they are using the command module trainer. At 1500 hours 3 minutes and 30 seconds GMT, this is Skylab Control.

END OF TAPE

SL-1 MC-59/1

Time: 11:00 a.m. CDT, 2:22:29 GET
5/17/73

PAO This is Skylab Control; 1600 hours Greenwich mean time. The Skylab space house is now over the Indian Ocean on revolution number 43, and it has just entered orbital nighttime. The flight controllers here at the Mission Control Center are relatively quiet, posture of quiet watchfulness, so to speak. Systems still appear to be stable. Skylab 1 has an elapsed time now of 2 days, 22 hours and 31 minutes. And at 1 minute after 11 a.m. central daylight time, this is Skylab Control.

END OF TAPE

SL-11 MC-263/1

Time: 19:29 CDT, 150:00:29 GMT

5/29/73

PAO This is Skylab Control 00:29 Greenwich mean time, AOS at Hawaii for about 8 minutes. Following loss of signal, hopefully, the Flight Director will appear in the newsroom for the Change-of-shift press conference. Neil Hutchinson still handing over to his relief.

CC Will do it.

CDR Quick.

CC Hey, I only got a couple of things. One's for the SPT if he's at the ATM panel. We've got the TV recording set up at Hawaii for this pass and if he has time to turn on the XUV monitor television to down-link it we'd sure appreciate it.

SPT Right now or when?

CC Rog. Right now, during this pass, Joe.

SPT Okay. Here we (garble) a real-time (garble)

17 (garble)

CC Joe, the squeal on that speaker box is so loud that I couldn't read you. Sorry, say again, please.

SPT Stand by.

SPT We get a lot feedback from the EREP guys. I say you've got the active regions of region 17 and H-Alpha - now I'm going to switch to XUV MONITOR.

CC Okay, thank you much.

CC And the only other thing that I had here was if the CDR still is confused about that stowage book message that we sent on page 2-22B, I think I understand at least what we intended by that change if he - if you're past that point in the checklist I won't worry about it.

SPT Houston, SPT.

CC Go ahead.

SPT I've got a couple of items for you. One, I reported a jiggle this morning in both the H-alpha displays and I think I talked myself into something that's not as bad as it sounds, because while it's true that the display jiggles, the mechanical cross here is jiggling right along with it, and they do not move relative to the Sun. To me that means that the canister isn't jiggling - that something is jiggling my TV image. And the pictures are probably going to be great. Over.

CC Hey, that's a good hint and we'll take that into consideration and think about it. Thank you.

SPT Okay, now the other thing I want to ask is about the power down for unattended ops. Do you want us to inhibit CMG AUTO RESET or not? If (garble) on the cue card there was a late change and we've been doing pretty good without it. I want to know your ideas on that.

CC Okay, we'll get back with you.

SL-11 MC-263/2

Time: 19:29 CDT, 150:00:29 GMT
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CDR Say, Dick, what stage you want the evening status report at tonight? Is that on my card or is it the med conference because I can never remember which ones are they?

CC Stand by Pete. It's two stations from now and I'll get you a time.

CC It's the Hawaii pass at 02:05. So that's the next time we come around here at Hawaii is the evening status report. And then following that we've got the medical conference pass and then we'll have one more pass at Ascension before you go to bed.

CDR Okay, fine.

CC Okay.

CDR How are things down there on the ground tonight there, Richard?

CC Well, we're just hangin on. It's kind of warm in Houston, but it's been real pretty the last few days. It's been a meritorious day, Pete.

CDR Well, I'm having fun up here. Got my good country music going.

CC Roger.

CDR Hey, did they get the 500 - -

END OF TAPE

SL-11 MC-264/1

Time: 19:34 CDT 150:00:34 GMT

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CDR Hey, did they get the 500 off today or not?

CC Pete, I understand that it got delayed again because of rain, and so it's gonna be start - they're going to try again in the morning.

CDR Okay. I've got to find out whether we've got a pass over there tomorrow.

CC Rog. Hang on and I'll let you know about that - next pass.

CDR Thank you, sir.

CC Roger.

CC Skylab, Houston. We're about 50 seconds from LOS. We're going to see you at the Vanguard at just about on the hour, and Joe, in answer to your question, we would just as soon leave the CMG AUTO RESET ENABLED. Over. If that's okay with you.

SPT That's good. We would too.

CC Okay, let's go that way.

SPT Okay.

CDR See you at the Vanguard.

CC Okay. See you there.

PAO This is Skylab Control. We've had loss of signal out of Hawaii. Coming up on tracking ship Vanguard in 20 minutes. However, that station pass will be recorded for delayed playback because of the change of shift briefing. Flight Director Neil Hutchinson just gave an estimate of 10 minutes on his arrival at the Houston News room for the change of shift press conference. All station passes that occur during the press conference will be recorded for playback at the conclusion of the press conference. Twenty minutes to Vanguard, and at 00:38, This is Skylab Control.

END OF TAPE

SL-II MC-265/1

Time: 20:57 CDT, 150:01:57 GMT
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PAO This is Skylab Control 01:57 Greenwich mean time, 8 minutes to acquisition at Hawaii, final Hawaii pass of the evening. We have about 6 minutes of accumulated tape from the air-to-ground during the most recent pass over the tracking ship Vanguard. We'll play back that tape and then come in live with the up-coming Hawaii pass. Let's listen to the tape now.

CC Skylab, Houston, we're AOS at Vanguard for the next 9 minutes.

PLT Roger, Houston. We're all sitting around the table eating.

CC Very good. Enjoy your dinner. And we're standing by.

PLT Okay.

CC And Skylab, Houston. No response required, but this evening we're going to be one by one sending up a series of commands to reset all the power system ALERT lights and we're able to do that for all the CBRN's except for number 15 and we have a little three-switch sequence for the next guy at the ATM and I'll be telling him if we have a pass while he's at the ATM panel tonight. If not, we'll put it on a message and you guys can do that in the morning. Out.

SPT Okay, Houston, good time for any boloney you want to pass up too, 'cause we're all sitting around just nothing to do but listening to young Richard Truly.

CC Just to listen to our boloney huh? Roger. Well, we have - we are checking tomorrow's groundtrack and we're going to be getting some words for you as to when you are going to be coming closer to Indianapolis.

PLT Pete says if that weather keeps like it is he may get back in time to see the race.

CC That's true. I think you're going to have to hurry. I think they're planning on running it tomorrow.

CC And one more note of an official nature. Be advised that this evening we are going to be doing some commandings while you guys are asleep to - on fine Sun sensor malfunction - a command procedure we have. And for the last guy that leaves the ATM this evening, be sure and leave the MPC INHIBITED powerwise.

CDR Yeah, I think we'll be on the checklist by then and we have that on the checklist. Dick, say I wanted to comment that I thought today went real well and from our point of view. We got behind a couple of times but we had a little opportunity to catch up and most of the getting behind was honest malfunctions. The one we had on the leg measurement device. We've had a little trouble with the biomed sensors. It's warm enough down here that everybody is - still their body

SL-II MC-265/2

Time: 20:57 CDT, 150:01:57 GMT
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is a little sticky and even though you've dried out pretty good they don't stick as well as they did on the ground, so we've had quite a few of those fall off. But looking at tomorrow's schedule that looks real good too, and I think we ought to be able to do that once (garble) in.

CC Okay, sounds real good. Also, I forgot to tell you, we are going to be sending up a teleprinter message. This pass that has a series of six or seven questions for you guys that you might smoke over before the next pass which is the evening status report pass.

SPT Will do.

CC Okay.

CC And Skylab, Houston. For the CDR, one of the questions that's not going to be on the evening questions pad that I thought I would read to you, and you can either reply to it here or we'd be glad to take it at the evening - at the next pass on evening status - and that involves the amplitude, the frequency, and the time duration of the parasol oscillations that you saw last evening when you did the RCS trim burn. And we're also wondering at what point in the burn did the oscillations start? Were they at the beginning, middle, or near the end and were they caused by - did they appear to be caused by TACS firings or vehicle motion? Over.

CDR That phase - when the TACS fires, one of the radial firing thrusters where if you're outside - any thruster - you can see it fire. The cold gas seems to have - I don't know a touch of moisture or something in it but it's absolutely puts out sort of a puff. And the sail was very definitely just oscillating when a TACS thruster was fired during the trim burn. I - there's no doubt in my mind that it was the TACS thrusters that were making the sail oscillate. And it was probably thruster number 1.

CC Roger, copy. What kind of amplitude was the sail going through, Pete? And how fast - what kind of frequency - could you estimate that or just give us a ballpark idea?

CDR It was just a flap once a (garble) for each TACS firing. It really didn't flap, you know, and then dynamically lie out. I think that material is relatively stiff right now and it'd really take one shot when the TACS thrusters go off and then that would be it.

CC Roger, copy. Thank you.

CDR Let me say that after it was all over the sail - the part of the sail that I could see was still wound up in the same place it was before we started that. So I don't know - I can't tell you what it did on the back end which is obviously where it was all coming from.

SL-II MC-265/3

Time: 20:57 CDT, 150:01:57 GMT
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CC Roger. But you think that after all was said and done the sail ended up in the same place as far as you can tell?

CDR Yeah, at least the front end - the part that I could see is still right where it was before.

CC Skylab, Houston. We're about 40 seconds from LOS. The next pass is Hawaii at 02:05 and we'll begin the evening status report from you here and we'll see you there.

CDR See you, Dick.

PAO Skylab Control. That concludes the Vanguard recorded pass. Up live now for Hawaii. Acquisition in a little over a minute.

END OF TAPE

SL-II MC-266/1

Time: 21:04 CDT 150:02:08 GMT

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CC Skylab, Houston. We're AOS at Hawaii. We've got you for the next 10 minutes. Go ahead.

CDR Roger, Houston. I have the evening status report for you. But, first, to settle one of those great questions that have come up during the course of the design of Skylab over the last 5 years. We have put to bed once and for all, the question of, "Can you run around the water ring lockers or can you not run around the water ring lockers?" I have just made 10 trips around the water ring lockers, and the SPT has made five, which means he owes Ed Gibson a steak dinner, and Dr. Faget was right. You can generate enough g's to run around there as long as you want to.

PLT And the PLT has been doing his big for science while they been testing.

CC Roger. I copied that. and did you trip on those blivets on those lockers underneath the tank over there?

CDK No, you can either jump over them, or you can run just below them. And that's where you got a great deal of control. And the tendency is to start running too fast, which gets you completely disoriented, but if you start out at a relatively slow pace, and gingerly putting your feet between the cracks in the locker to push off, you can gradually work your way to an upright position, where you are, in fact, truly running. And we will document that for you on TV. I think it's rather spectacular.

CC That's just what I was going to request. I guess we ought to get on with the evening report, but I certainly would like to see that documented myself. And I'm standing by.

CDR Okay, the CDR was a good boy again and polished off everything plus add one set extra butter cookie. The SPT did not eat his bread or catsup, which he has marked down as spoiled, at lunch time. Nor did he eat item 62, his coffee, snacks, or 07, his apricots. He had no additional salt, and his mineral tablets were 32000.

CC Okay.

CDR The PLT ate all three meals. The snack items that he skipped, 62, coffee; 12 mints. He had four optional salts, and his mineral pills were 31010.

CC Roger. Got that.

CDR The photo log is as follows: 16 milli-meter, CPS UP-DOWN-BH01-95 N/A. Next line, M151, M092-171, C103 20 percent.

CC Roger. Got that.

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Time: 21:04 CDT 150:02:08 GMT
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CDR Okay. On EREP, that's 190A SET K,
7201 9400 6919 6309 8076 6377.

CC Roger.

CDR And malfunction. CIL1, X quarter 02.
CIL2 failed to start. Hundred percent remaining on CIL1.
We will clear the jams tomorrow during the film thread, and
start over again with that one, so if you'll just put it
up on the film thread pad to reload CIL1 on 02, with CIL2
as take-up, we'll fix it. Whatever's the matter with it.

CC Okay.

CDR Flight plan deviations. There were
none. Any (garble) data changes have been reported on
B channel, and there weren't very many, as I remember.
Any inoperable equipment has been reported on B Channel.
Guess that's it for today. Oh, hold it, I got the answer
to a couple of questions.

CC Okay.

CDR All right now message 0517 Bravo on
the food procedure. We see no problem with one, two, three,
or four, and as a matter of fact had already been doing
that. There's sometimes we're a little late eating, so the
heaters have been running a little longer, but otherwise
we agree with those procedures, and this general message
051AP, we have not cleaned the debris out of the solenoid
vents. They are capped. We can't clean them by
removing the screens, which are deep, and vacuuming, and
we request that you schedule that on the flight plan, and
we will do same for you.

CC Okay, we'll do that. One thing on that
solenoid vent valve, is that - You say it was capped, is that
plug in or out?

CDR It's - I believe you asked us to plug
it, and therefore it's plugged.

CC Stand by 1. Well, we'll get back to that,
Pete, continue if you got anymore.

CDR No, but apparently you sent word up
today to take it back off, and Joe did do that.

CC Okay. We agree. Okay, continue, if
you have anymore.

CDR Nope. That's it.

CC Okay. Is the PLT listening up at the
ATM? I have this procedure to clear that CBRM light if
he has a chance to throw three switches for me.

PLT Dick, go ahead with it.

CC Okay. First, down in that lower right
hand corner of the ATM panel. POWER SYSTEM CBRM SELECT. Switch
to 13-18. In the rotary switch put that to 3/15. And

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then the REG switch, momentary on, UP.

PLT Going there now.

CC Okay.

PLT That's complete.

CC Okay. One question. We sent up some

questions this evening on Message 0615. Do you have the answers to those. If not, would you put them on the tape recorder when you get a chance, please?

CDR Okay. I haven't seen that message. Maybe it's in the teleprinter. Did it come up late?

CC Yes, that was the one that came up at that last pass that we - that I told you about, about an hour and a half ago - an hour or so ago, but don't sweat it. You can get to it. I do have one comment for tomorrow morning's blood drawing. We found on the tape recorder, I think, I believe Bill Thornton did, a problem that you had with the air in the blood samples, and I'm advised that during SMEAT and also during some of the free-flight M10, series blood drawings, they did have some problems with air leaking into the sample through the syringe needle interface, and about the only suggestion we have there is making - checking real sure that the needle is placed as firmly as possible on the syringe.

CDR Dick, our problem apparently was that the ask, although evacuated by the aspher, would partially leak back down, before we had a chance to put the blood in them, so my plan for tomorrow is to evacuate immediately before using that particular asp.

CC Okay, Story says that's a good approach. He agrees. Another question for you, and we don't have to get an answer on this now, but we would appreciate it if you can remember. What is the status of the film that was taken on mission day 1. The rendezvous in each of the 35 millimeter, the 70 millimeter, and the 16 millimeter cameras? We want to know how many -

CDR Okay. Let me give you a status. On the 16 millimeter camera I used one whole magazine, that started at about stationkeeping distance, and has the whole flyaround on it at one frame a second, and then on the same magazine, I had 20 remaining, so we had the whole SEVA on that one magazine. And the other magazine is 100 percent full and I don't remember the number of it. The 70 millimeter, we are using that as general photography that has those pictures on it, and the 35 millimeter film is still in the camera, and I forget, maybe Paul remembers how many pictures he took on it.

SL-II MC-267/1

Time: 21:51 CDT, 150:02:52 GMT
5/29/73

PAO This is Skylab Control 02:51 Greenwich mean time. A minute and 50 seconds out of Ascension Island station. We have about 45 minutes of conversation toward the end of Vanguard pass when the medical conference was terminated and the air-to-ground circuit turned back over to CAP COM. We'll play that tape now and join Ascension Island pass live.

CC Skylab, Houston, I understand we have air-to-ground back. We are about 30 seconds from the end of this pass. We're going to be at Ascension at 02:53 about 7 or 8 minutes from now.

SPT Okay, we're answering your questions on B channel, Houston.

CC Very good and I'll have a couple of things to say to you there. Be advised - Indianapolis - you guys are going to be overhead at 12:36 Zulu, almost right overhead, that's 7:36 in the morning local, so if the weather's clear you ought to be able to look straight down and watch the cars warming up.

CDR 12:36 Z. Thank you sir.

CC Roger.

CC Skylab, Houston. We're AOS at Ascension for the next 4 minutes.

SPT Hello, Houston.

CC Hello there, Joe. I've got a couple of things that I'd like to mention to you guys here at this last pass if you don't have anything pressing for me.

SPT No, go ahead.

CC Okay, first of all - and is this portable fan that we - that you guys set up pointing some of the OWS warm air forward? It turns out that we've looked at the data and the present location that it's in is actually hurting us a little bit in our total cooling capability and we'd like to request for this evening that you do one of two things. Either move the fan to the same wall as the OWS heat exchanger fans and blowing forward. And our purpose is to get the warm OWS air right over the, or near the heat exchanger inlets. If you don't have time to actually move the fan or you can't find a good place for it tonight, request you turn that fan off and then also turn the AM heat exchanger fans, three of them, to LOW. Over.

SPT Okay, if we do move the fan do we leave the heat exchanger fans on, right?

CC That's affirmative. And the next thing I have is, we're not real sure whether or not you're completely finished setting up the ATM for unattended ops, but if not, we show SO-54 FILTER in 1 vice 2. And also, we should be in the SOLAR INERTIAL mode vice EXPERIMENT POINTING.

SL-II MC-267/2

Time: 21:51 CDT, 150:02:52 GMT
5/29/73

CC Another note is that we went through the voice record tapes and the - where you recorded a voice for the wardroom SMMD calibration - somehow or another that got garbled and we just couldn't read the tape well enough and if you get a chance we'd like for you to re-record a wardroom SMMD CAL data on channel B. While I'm on that - -

SPT All of it?

CC That's affirm. All of it.

SPT Oh boy. How about if I bring the logs back in so that - okay. Let's see. On this business of going to SI for unattended ops, we decided earlier not to power down the experiment pointing loop. I haven't done the changes to the other unattended OPS pad we set up. And meanwhile we made up our own unattended OPS pad by deleting all those steps which powered down the EPC loop, one of which was going to SI.

CC Roger, Joe. I'm told we're not asking you to power down the EPC loop, but by going to solar inertial it takes the power off. It's a power consideration and does remove power from a bunch of things that we don't want to power up during the evening.

SPT Okay, well, undelete that stuff and I guess the filter 2 was per - per the pad. Was that right?

CC That's affirm.

SPT Okay.

CC One other ATM (garble), we've noticed when sunset comes around that we can see the sunset on each on H-alpha. We thought the doors ought to close sooner than that so we make that comment. You can tell us if it's right.

CC Okay, copy that Joe, and I made a mistake I think - that S054 filter is on the cue card not the pad, but at either rate for this evening put in I please. Also - -

SPT In the filter, the cue card/pad or rather the cue card said storage and also says 1 which is very confusing so we picked storage.

SPT Now you tell us what you really want.

CC Okay, we want it in FILTER 1 tonight.

SPT Can we - all right. Tell us tomorrow sometime what the cue card ought to say forever.

CC Okay, Joe, I'm being educated here. We want you to put it in FILTER 1, confirm it's there and then go to STORAGE. And we've got about 30 seconds left in this pass, guys. One other comment on this voice record data - some of it has been garbled because of the classical music in the background in the wardroom and we sure don't want to - you know to get in the way of that but you might take that into consideration when you voice record on channel B. And the first pass in the morning will be about 5 or 10 minutes

SL-II MC-267/3

Time: 21:51 CDT, 150:02:52 GMT

5/29/75

after 6 o'clock local down here and on board that's right after crew wake-up, so have a very nice evening sleeping, and we'll see you tomorrow morning.

SPT Goodnight all.

CC Roger.

PAO This is Skylab Control. Skylab space station crew has been tucked in for the evening. Wake-up time 6 a.m. central daylight. Next station pass for Skylab space station and the crew which likely will be asleep by that time, is an hour and 16 minutes away, Vanguard again. Ground track passes down through between Guam and Hawaii, misses all other stations until tracking ship Vanguard. After a rather busy day, first full day of gathering scientific data and medical experiment runs, the crew of Skylab has called it a day. At 03:00 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-268/1

Time: 22:14 CDT 150:03:14 GMT
5/29/73

PAO This is Skylab Control, 03:14 Greenwich mean time. Skylab space station crossing over Iran, and northern Arabia at this time. About one-fourth of the way through revolution number 223. Following is the medical bulletin issued by Flight Surgeon Dr. Charles E. Ross, resulting from the medical conference held over Vanguard this past - late in revolution number 222. The Skylab crew remains in good physical condition and in high spirits. The heat load has not caused any notable problems. And the crew's hydration remains satisfactory. The science pilot stated that the crew seems to need only 5 to 6 hours of sleep nightly to feel rested. And that's the sum of the medical bulletin. Fifty-nine minutes until next Vanguard pass. And at 03:15 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-269/1

Time: 23.14 CDT
5/29/73

150:04:14 GMT

PAO Skylab Control at 4 hours 14 minutes and 12 seconds, Greenwich mean time. We're approaching acquisition of signal at Vanguard in approximately 48 seconds. And at that time, we do not expect to hear from the crew. We may find out whether or not the crew is sleeping in the orbital workshop. They were scheduled earlier tonight to have been wearing the M133 sleep monitoring device, and to do that they must be in the orbital workshop. Medical personnel here do not know, they've got no definite information that that will be the case. We're coming up now on acquisition of signal, and should be receiving data at any moment. This is Skylab Control and we'll stay tuned for any possible discussion from the crew if they are awake.

PAO Skylab Control. We have acquisition of signal and about 9 minutes left in our pass over Vanguard. The data we're receiving from the temperature transducers in the orbital workshop indicates that those temperatures are coming down very slightly. About 0.3 of a degree over the last hour and a quarter on most of those sensors. Some of the sensors relatively stable. Only a slight reduction from this morning's temperatures. The lowest temperature in the orbital workshop area has been about 76.6 degrees. The highest temperature 87.6 degrees. And that's again in the experimental compartment ceiling, which has generally been the highest temperature over the last several days. Median temperature is about 82-1/2 degrees, and we still have acquisition of signal and we'll stay up for this 8-minute and 30-second pass.

PAO Skylab Control. That sleep monitor is registering data and indicating the sleep state is now at stage zero, which means that we now have operational data there, and we should be getting some information later from the medical personnel on what time they actually go to sleep. We have 6 minutes and 35 seconds left in our pass over Vanguard.

PAO Skylab Control at 4 hours 23 minutes 25 seconds Greenwich mean time. We still have acquisition of signal for another 2 minutes and 9 seconds at Vanguard. And the sleep monitor experiment is still giving us data, indicating now a sleep state stage 4, and we'll try and get you an interpretation of the various stages of sleep that come out on this data shortly after the pass is completed. There will be an edited replay of today's television from Skylab approximately 5 minutes, beginning exactly at 11:30 central daylight time. That's a little over 6 minutes from now. This is Skylab Control. We will stay alive for the remaining one minute and 35 seconds of this pass.

SL-II MC 269/2
Time: 23:14 CDT 150:04:14 GMT
5/29/73

PAO Skylab Control at 4 hours and 26 minutes
Greenwich mean time. We have lost signal and tracking data
from the Vanguard station. We have approximately 2 minutes to the
acquisition of signal at Ascension. And then we'll have
another long period of loss of signal, almost 45 minutes.
This is Skylab Control at 26 minutes 18 seconds, after
the hour.

END OF TAPE

SL-II MC-270/1

Time: 23:37 CDT 150:04:37 GMT

5/29/73

PAO Skylab Control at 37 minutes and 13 seconds after 4 hours Greenwich mean time. At the present time we are receiving good data from the Ascension tracking station. The science pilot is showing a sleep state at stage 3 which is moderate to a deep sleep, and there will be fluctuation regularly in this data. He just in fact, fluctuated to stage 4, stage 4 is the deepest state of sleep, and he can be expected to vary from 3 to 4 and back up to 2. These are various depths of sleep. This would indicate that the science pilot, Dr. Joseph Kerwin, who is wearing the equipment right now is sleeping soundly, and it is assumed that the other two are with him in the orbital workshop sleep compartments, the first night they've spent in those sleep compartments. Temperatures are fairly stable tonight. They are expected to go down during the overnight period when there's less activity in the Skylab, and when both of the coolant loops are functioning at full tilt. That does help to bring down the temperatures and we have seen some fractional temperature decline in the last few hours. This is Skylab Control at 38 minutes and 27 seconds after the hour.

END OF TAPE

SL-II MC-271/1

Time: 00:12 CDT 150:05:12 GMT
5/30/73

FAO Skylab Control at 5 hours 12 minutes and 23 seconds Greenwich mean time. The space station has now reached an acquisition of signal over Guam. And we're receiving data there already from telemetry. That data indicates still that the Science Pilot, Dr. Joseph Kerwin, is in a sound state of sleep in the orbital workshop area. This is the first night that the Skylab crew has slept in the orbital workshop sleep compartments. First time during the 28 day mission. We're receiving data that shows him sound asleep in the deepest stage of sleep, stage 4. And we expect that to fluctuate during the evening. That's normally the procedure. You sleep very deeply and have lighter stages of sleep, and some rapid eye movement that indicates possibly dreaming. And the temperatures in that area on the sleep monitor for experiment M133, indicate temperatures from 79 to 86 degrees in various temperature transducers in that neighborhood. So it's been a rather warm place to sleep, but not terribly uncomfortable. And as you can see, he is sound asleep there. The first time the temperatures in the workshop are hovering around the 82 to 83 degree mark, coming down slowly. The spacecraft is on its 224th revolution as it passes over Guam on a descending node, traveling towards the southeast, and we do not expect to hear any more commentary from the spacecraft. We have not for quite some time. This is Skylab Control and we will stay alive for air to ground for the next 8 minutes and 30 seconds. Skylab Control at 14 minutes after the hour.

PAO Skylab Control at 14 minutes and 33 seconds after 05:00 GMT. Because the crew members appear at this time to be asleep, the Science Pilot is the only one wearing a monitor that would give us indications, because there is sound sleep indicated there, we will shut down the line. If anything should happen, we'll come back up for an announcement, and there will be a next announcement on the hour at 1:00 a.m. This is Skylab Control at 14 minutes and 59 seconds after the hour.

END OF TAPE

SL-II MC-272/1

Time: 01:00 CDT, 150:06:00 GMT
5/30/73

PAO This is Skylab Control at 6 hours and 2 seconds Greenwich mean time. At the present time the spacecraft is on ascending node beginning it's 225th revolution about the Earth, traveling north over the Brazilian coast and in range of the Vanguard tracking station. Those temperatures have again begun to come down during the nighttime period when there is less activity in the spacecraft. The highest temperature now reading anywhere in the spacecraft is 86.6 degrees. The lowest level in the orbital workshop area of the spacecraft is 76.2 degrees. And the median temperatures indicated are about 82 degrees. In the sleeping compartment where Science Pilot Joseph Kerwin is asleep, there are readings from 79 to 86 degrees. At the present time the sleep state indicated there is stage three of sleep which is a moderate to deep sleep and they have been fluctuating regularly during the passes we've had so far today. This monitoring device used in experiment M-133 includes an electroencephalogram which is a brain wave measuring device, and an electrooculograph which measures eye movements. Rapid eye movements are associated with states of dreaming. So at the present time everything is moving smoothly, both coolant loops functioning properly and are bringing those temperature down, although at a very slow rate now by fractions of degrees every hour. This is Skylab Control at 1 minute and 29 seconds after the hour.

END OF TAPE

SL-II MC-273/1

Time: 02:00 CDT, 150:07:00 GMT

5/30/73

PAO This is Skylab Control at 7 hours Greenwich mean time. At the present time Skylab crew is still asleep in the orbital workshop. We've heard nothing from them. The M-133 sleep monitor is not - has not given us any valid data at the last station so there's no necessary problem there, but the information we were getting was not indicating any sleep state at all and that does happen from time to time because of variations in telemetry and also because of changes in the position of the equipment that's worn on the head of Dr. Joseph Kerwin. Temperatures have continued to decline at a very very slow rate in the orbital workshop during the overnight period. Temperature decline indicated is about 1 degree every 4 hours on most of those sensors in the - atmospheric sensors in the orbital workshop. The lowest temperature now being read up in the mission control display of orbital workshop atmospheric temperature transducers is 75.8 degrees. The highest temperature listed on the - on this display is 86.1 degrees, and in general the mean temperature is indicated at about 82 degrees on the atmospheric sensors display at mission control. The indication is that with both coolant loops operating that temperature has dropped very slightly but almost not noticeable anymore. Most of the dropping is at a slower rate than last night when it was dropping by fractions of degrees. There have been no new problems aboard the spacecraft. Everything is operating properly and this is now in the 225th revolution as we are coming within 1 minute of acquisition of signal at the Honeysuckle tracking station in Australia. This is Skylab Control at 1 minute and 46 seconds after the hour.

END OF TAPE

8L-II MC274/1

Time: 05:00 a.m. CDT, 150:10:00 GMT
5/30/73

PAO This is Skylab Control at 10 hours and 28 seconds Greenwich mean time. At the present time the spacecraft is traveling a descending node of the 227th revolution. It's now passing out into the Indian Ocean over the - just passing the tip of India. There have been no major problems aboard the spacecraft. Systems all seem to be functioning properly. Temperatures are not coming down very quickly although they have reduced again somewhat during the night, a fraction of a degree an hour has been the rate over the overnight period. Temperatures now approximately 81 on most of those sensors in the orbital workshop atmospheric gas temperature display here in Mission Control. No indication as to whether those temperatures are going to come down much further but they have come down a matter of about 2 or 3 degrees on the overnight period. At the present time the system for computer telemetry here on ground is giving mission controllers some problem. They're having trouble recording data to be put into the files. Every so often all of the information that is recorded on tape here in the computer center must be taken off and put on tape and stored and they have had some backlog there and as a result of that have had to hold information at the tracking stations rather than bringing it in here to the computers and they're presently trying to solve that problem. It doesn't present any immediate emergency and we don't lose the data but it is causing something of a backlog right now, and that's now being under study here in the computer center. This is Skylab Control at 2 minutes and 10 seconds after the hour.

END OF TAPE

SL-II MC275/1

Time: 05:51 a.m. CDT, 6:10:51 GET
5/30/73

PAO Skylab Control at 10 hours 51 minutes and 38 seconds Greenwich mean time. At the present time, we're 25 seconds from acquisition of signal at the Corpus Christi, Texas, Tracking Station. We're beginning a stateside pass that will last an extended period of time, about 15 minutes all together. This stateside pass is expected to include a wakeup call from the spacecraft communicator, and that should take place shortly after 6 o'clock this morning, possibly at either the Mila or Bermuda stations, which are both on this single ground track. We have acquisition of signal now, and we will stay alert for a call from the crew.

END OF TAPE

SL-II MC-276/1

Time: 06:01 a.m. CDT, 6:11:01 GET
5/30/73

CC Good morning, Skylab. This is Houston.
We're AOS over Bermuda for about the next 6 minutes.
SC Good morning. And we're with you.
SC Hey, Houston, Skylab.
CC Go Skylab.
SC This is ah - data point for you last
night. All three of us did sleep in the sleep compartment
rather than any place else. And it's also - it should cool it
down. And ah - It could be a little cooler, but I think every-
body got a feasible night's sleep down here.
CC Roger. Copy.
SC Houston, SPT.
CC Go SPT.
SC I have a comment for you on M133, you
ready?
CC Go.
SC Okay. I just got notice this morning
that - testing the electrodes after the sleep period. But all
of them indicated poor contact. They were all okay last
night. However, all of the electrodes were (garble)
drier than they'd been packed. They obviously
had dried out. So, it looks as if they may have dried out more
during the night. I'd like the guys down below to check
their real time data and see whether they got solid data
through the night. If they didn't whether they can think
of a fix to get additional moisture into the electrodes.
CC Rog. Joe. No we indicated stage zero
throughout the night, which indicated no data. That was about
1 hour at - we got 1 data for good for 1 hour and then it
went to stage zero.
SC Okay. Well, I had good contact when I
went to sleep. And nothing this morning. So, I believe
the electrodes are drying out on us.
CC Rog. We copy. We'll look into it.
CC Skylab, Houston. We're 1 minute from
LOS. We'll have you again at Madrid in 11:11, 1111.
SC (Inaudible).
PAO Skylab Control, at 11 hours 8 minutes and
8 seconds. We're presently out of range of the voice
communications with the astronauts in Skylab. They are
now up and awake. We do have tracking data, however for
our New Foundland Station. But that's only ATM data. It
doesn't include a voice track. We expect to get acquisition
of signal again in a little over 2-1/2 minutes from Madrid.
That pass lasts 8 minutes and 3 seconds. And after that
we'll be out of range of voice communications for an extended
period of time. Today will be a rather light day in terms of
medical experiments. All three crewmen will have blood

SL-II MC-276/2

Time: 06:01 a.m. CDT, 6:11:01 GET
5/30/73

samples drawn this morning and stored for later analysis on the ground. These samples are spun in a centrifuge and then stored in a freezer. During the past night the Science Pilot, Joseph Kerwin, was wearing M135, the sleep monitoring night cap. He indicated that he was having some problem with the electrodes drying out in that sleep cap. And after about an hour of good data on Dr. Kerwin's state of sleep, the readings became invalid. The biomedical persons in Mission Control indicated earlier that they would ask about reasons for the cessation of valid data. But Dr. Kerwin volunteered that information as he first spoke to the ground. M133 is scheduled to be worn by Dr. Kerwin again tonight, although something will have to be done to activate those electrodes so they will give proper readings. Today the human vestibular function experiment, M131, will be conducted twice. First, with Paul Weitz as the subject and Dr. Kerwin as an observer. And later this afternoon Dr. Kerwin will sit in the rotating chair and Paul Weitz will observe. The rotating litter chair used in M131, moves very slowly in a circle, taking from 2 seconds to 1 minute to make a revolution. The test will help doctors understand more about motion sickness in a weightless environment, as the speed of the spinning chair increases. And also, will tell something about man's ability to detect movement at very, very low speeds. Both Commander Pete Conrad, and Science Pilot Dr. Joe Kerwin, are scheduled to operate the Skylab's solar telescope today, again doing many of the experiments similar to those done yesterday. Dr. Kerwin will also operate an aerosol analyzer to measure particles in the spacecraft's atmosphere that might affect the health of crew members. This investigation, experiment number T003 may lead to improvement in future spacecraft materials, air circulation, and also housekeeping procedures. Paul Weitz will also set up and operate the stellar ultraviolet astronomy experiment in the scientific airlock. This is on the opposite side of the OWS from the airlock used to deploy the thermal parasol. The purpose of that is to aid in the understanding the physics of star formation, collective structure in interstellar medium. We will have acquisition of signal in not - approximately now in Madrid.

END OF TAPE

SL-II MC-277/1

Time: 06:11 a.m. CDT, 06:11:11 GET
5/30/73

CC Skylab, Houston. We're AOS over Madrid for the next 7 minutes.

CC Skylab, Houston. We're 1 minute until LOS. We'll see you again over Carnarvon at 11:46.

SC Hey, Griff, we didn't get our flight plan for the SPT last night. We got 18 feet of other stuff, but the SPT doesn't have a flight plan - summary flight plan.

CC That's beautiful. We'll look into it. Maybe we're going to let him loaf today. I understand it was not the summary he did - he didn't get the summary, right?

SC He did not get the summary flight plan last night.

CC Roger; copy.

CC That was just a test to see if you're still reading it.

SC Yeah.

PAO This is Skylab Control at 11 hours 19 minutes and 50 seconds Greenwich mean time. We've just lost signal with the Skylab spacecraft. The spacecraft is now traveling over Europe, headed on a descending node of the 228th revolution. They woke up promptly at 6 o'clock this morning. The first Earth resources experiment pass is planned for later in the day, in addition to the activities listed earlier. This will require an attitude change from that which points the solar telescope and the ATM solar panels at the Sun to an attitude in which the space station is kept in the same relation to the Earth, so that Earth-observing cameras and sensors can remain fixed on the surface below. Twenty-five separate sites have been identified for this first Earth resources pass, which follows groundtrack number 20, beginning at the coast of Oregon on the Pacific Coast; traveling across parts of Nevada, Utah, Arizona, New Mexico, Texas, the Gulf of Mexico, Central America, Columbia; and ending just into Brazil, where the Sun angle is too low for good quality photography. We have looked at the weather reports for today, and they appear to be excellent for photography in much of that area. Less than 3/10th cloud cover, which is considered optimum conditions in most of the southern part of the United States. There is some cloud cover on the Oregon coast, but one of the - at least one of the projects in that area does not require clear - clear skies; so there will be some data from that area even if there remains cloud cover later today. Central America - the cloud conditions are a little bit more severe; it's unlikely that much data will be gathered there - about 8/10ths to 10/10ths in cloud cover, and there are medium cloud cover in the Brazil and Columbia areas. Many of those experiments today on the Earth resources experiments package are interded to check out the sensors that are being used in that equipment. Among the sensors being tested are the microwave radiometer, the scatterometer altimeter, which is S19j. And that will be tested over a variety of terrain-types, in both clear and rainy weather, to prepare information that

SL-II MC-277/2

Time: 06:11 a.m. CDT, 06:11:11 GET

5/30/73

will aid designers of future remote-sensing satellite instruments. Now that can take place anywhere in the United States, and it will be done on this groundtrack number 20. Another test of instruments on the spacecraft, to compare with data received by aircraft-carrier sensors and those provided by researchers right at the test site on the ground, will be recorded on magnetic tape and on the coast of Oregon. The place of this is on the coast of Oregon; it will be recorded on magnetic tape in the spacecraft. To evaluate the multispectral camera, S190A, and the Earth terrain camera, S190B, in use over the Great Salt Lake Desert in Utah and also at White Sands in New Mexico, we'll also be doing a pass today, and this data will be used in quick-look planning. That's a very short period of time-planning for Skylab number III, the next Skylab mission. We'll also be doing an evaluation of performance of S191, the infrared spectrometer, which will observe the White Sands, New Mexico, test site through the infrared spectrum, which is not visible to the unaided eye. This uses both magnetic tapes and also has a view-finder photograph, and that data will be returned by the crew at the end of the 28-day mission. In addition to that, there are a number of other projects, including agricultural projects. One example of this is the agricultural project in Columbia, South America. This is one of three areas that will be studied during this Skylab mission. The others are Sudan and Africa and Philippines, with a study that's being taken - taking place under the auspices of the United Nations Food and Agricultural Organization. And this will be to study both crop and forest inventories, and also to study insect and disease damage to plant life, using the multispectral photographic equipment. In addition to that, there are a number of studies in the Rio Grande Valley of insect infestation and to map saline soils. So there are twenty-five all together, and this is our first Earth resources pass taking place this afternoon. This is Skylab Control at 11 hours 24 minutes and 18 seconds after the hour.

END OF TAPE

SL-II MC278/1

Time: 06:45 a.m. CDT, 6:11:45 GET
5/30/73

PAO Skylab Control Houston at 11 hours 45 minutes Greenwich mean time; standing by now for acquisition of Skylab space station over Carnarvor. The crew aboard Skylab awakened on the last stateside pass and presently undergoing their post-sleep activities prior to start of the work day. We'll stand by and monitor the callup to the crew aboard Skylab from CAP COM, Bob Crippen.

CC Skylab Houston we arc - have about 30 seconds worth of voice over here at Carnarvon and we'll have you again at Honeysuckle at 11:57, correction, we've got about 5 minutes here. That clock is all fouled up.

SC GARBLE.

CC Rog. We're going to try to correct Joe's problem and give him up a summary flight plan.

SC Yeah, that includes his details too. And you passed the PLF details twice and the CDR details twice. We have checked it no further than just cross-checking the message numbers and the message numbers are the same on those duplicate messages.

CC Rog. I guess we didn't understand about the details while ago for the SPT so we'll have to work on that.

SC That's my fault Crip. I specified summary flight plan.

CC No sweat, Paul.

SC Houston are you there?

CC Rog. Go ahead.

SC Okay I found the SPT's flight plan in detail
GARBLE.

CC Roger, understand you do have the SPT's flight plan.

CC Skylab, Houston. That last was a little garbled. Understand you do have the SPT's detail summary.

SC That's affirmative, Crip.

CC Roger. Thank you.

CC Skylab, Houston. We're one minute until
LOS. We'll see you again at Honeysuckle at 11:57, 11:57.

SC See you.

PAO Skylab Control, Houston; 11 hours 54 minutes Greenwich mean time. Skylab now under acquisition through Honeysuckle tracking. The crew aboard Skylab now awake. Now undergoing their post-sleep activities prior to the start of the work day. This morning the pilot and science pilot will be involved in the M131 experiment. This the human vestibular function involving the rotating liter chair, which moves very slowly in a circle. Paul Weitz will serve as subject. Dr. Joe Kerwin

SL-II MC278/2

Time: 06:45 a.m. CDT, 6:11:45 GET
5/30/73

as the observer of this. Will be repeated later in the afternoon reversing the status of the two crewmembers.

PAO Continuing with the pass over Honeysuckle now. No callup thus far from CAP COM Bob Crippen to the crew aboard Skylab.

END OF TAPE

SL-11 MC-279/1

Time: 06:57 a.m. CDT, 6:11:57 GET
5/30/73

CC Skylab, Houston. We're AOS over
Honeysuckle for just about 1 minute.

SC Rog, Houston. The SPT got two sets of
details also. And I don't quite understand it because one
of them is buried in the middle of the ATM pad. Details that -
You might look into that. It seems like when you're sending
them all out in any old random order that some time - His
details didn't have a header on it. It's just right smack
in the middle of the ATM stuff with an end-of-message header
but no beginning-of-message header.

CC Roger. Copy, Pete. And we're about
30 seconds still LOS. We'll see you again over Texas at
12:27, 1227.

SC Roger, roger.

PAO That was Pete Conrad describing the
teleprinter operation. Apparently, 2 sets of detail
Flight Plans or Flight Activities were transmitted for the
Science Pilot, Joe Kerwin. We're 11 hours 59 minutes Green-
wich mean time; passing out of range now with Honeysuckle.
The next station to acquire will be Texas at ah - in approx-
imately 27 minutes from this time. Today's Flight Plan
shows 2 of the crew members at the display and control
console of the Apollo telescope mount. At 1400 hours
Greenwich mean time, the Commander, Pete Conrad, will be
in that position. Later in the day, around 1700 Greenwich
mean time, Science Pilot, Joe Kerwin, will assume that
position. We're 27 minutes away, now from Texas acquisition
and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-280/1

Time: 07:04 a.m. CDT, 6:12:04 GET
5/30/73

PAO Skylab Control, Houston; 12 hours
4 minutes Greenwich mean time. This is an announcement to
announce that there will be a change of shift news conference
with Flight Director Milt Windler. This press conference
will start at 7:15 Greenwich - 7:15 central daylight time
in the building 1 briefing room. I repeat, 7:15 central
daylight time, approximately 10 minutes from now. That will
be a change of shift conference with Flight Director Milt
Windler, who is going off shift.

END OF TAPE

SL-II MC-281/1

Time: 07:12 a.m. CDT, 6:12:12 GET
5/30/73

PAC Skylab Control, Houston, at 12 hours
12 minutes Greenwich mean time. This is a repeat of our
previous announcement. A change of shift press briefing
is scheduled with off-going Flight Director, Milton Windler,
This is estimated to start approximately 7:15. Flight
Director Windler is presently leaving the Mission Control
Center to go to building 1 for the news conference in the
small briefing room in building 1.

END OF TAPE

SL-II MC-282/1

Time: 07:36 a.m. CDT, 06:12:36 GET
5/30/73

ALL DEAD AIR

END OF TAPE

SL-II MC-283/1

Time: 07:47 a.m. CDT, 6:12:47 GET

5/30/73

CC Skylab, Houston. We're AOS over Madrid for the next 9 minutes.

SC Roger, Houston. Hey, Crip, verify something for us sometime, will you please? With proper nominal height Sun-angle setting for the Hasselblad, how's the window? Is F/8 at a 2/50th?

CC Paul, I didn't get the F-stop that you gave on that. F/8 and 2/50th?

SC Yeah. That's what sticks in our mind. But Dietrich says it ought to be F/11. So, if you could verify that for us. As I said, that's for out-the-window, nominal air (garble) with high foot angle.

CC Roger.

PAO Skylab Control, Houston; 12 hours 50 minutes Greenwich mean time. We have acquisition now with Madrid for approximately 7 minutes and 40 seconds.

CC PLT, Houston.

SC Go ahead.

CC Roger. In the form that on the back of your 70-mm photo log, it gives a setting for that. And it's listed for f/11 for general seeing.

SC Yeah. Here it is. I see it now. We had the (garble) photo log (garble) because the velcro pattern wasn't right on the Hasselblad we brought up with us in the command module.

CC Roger.

SC You're right. We knew that (garble) was some place.

CC If you keep up with where they're all at, you're lucky.

SC Why not (garble) so I can give him something to do.

CC Roger. They were just loafing.

SC Right. We really knew it all the time.

CC By the way, before I leave the scene here, I wanted to congratulate Joe the other day for finding the Sun for us. We never did get a chance to talk again.

SC We now have the spot exactly marked; so any time you need any help, just give a call. (Humor).

CC V. good.

SC Hello, Houston. You still there?

CC Affirm.

SC Hey, how about giving us the coordinates of the pyramids so we can plot them on our orbital map? We want to see if we can find them.

CC Roger. It's in work.

CC We're 1 minute until LOS; see you again at Honeysuckle at 13:34, 1334.

SC Roger.

END OF TAPE

SL-II MC284/1

Time: 07:58 a.m. CDT, 6:12:58 CET

5/30/73

PAO Skylab Control, Houston; at 12 hours 58 minutes Greenwich mean time, passing out of acquisition range now with Madrid. The next station to acquire will be Honeysuckle in approximately 36 minutes. At this time we'll playback the tape of the stateside pass which occurred during the change of shift conference. During this pass CAP COM Bob Crippen reads up the morning news to crew aboard Skylab.

CC Skylab, Houston. We're AOS over the states for the next 13 minutes.

SC Roger, Houston.

CC Roger and if you guys have finished picking one another and you're interested I can give you the morning news.

SC Go ahead.

CC Roger. The morning news as follows. Russia launched a meteorological satellite Tuesday, designed to help forecast the weather. Tass news agency announced that the craft is orbiting the Earth every 102.5 minutes with parameters ranging from 565 to 539 statute miles. The satellite will photograph cloud (garble) both day and night sides of the Earth and will make the heat reflected from Earth. And the Texas Legislature has voted to restore the death penalty in certain cases. Governor Dolph Briscoe is backing the bill which is expected to face tests of its constitutionality. The feud over fishing rights continues between tiny Iceland and Great Britain. British fishing trawlers operate within 50 miles of Iceland shores and Iceland doesn't like it. The controversy threatens to upset the stability of NATO. Secretary of State William P. Rogers just returned from a 17 day, 8 country visit, to Latin America. He says that anti-American feelings are not strong despite staunch nationalism in Latin countries. Rogers calls his visit a success and will lead to more cooperation between the United States and its southern neighbors. The engagement of Princess Anne, daughter of Queen Elizabeth II, was announced today in England. The Princess will marry a commoner, cavalry officer Lieutenant Martin Phillips son of a manufacturer and country squire. (Garble) People in hereby Dallas are concerned with a mysterious blue stuff the blob which first appeared about two weeks ago oiling it's way up through a suburban back yard. The blob as described by those brave enough to go near it is blackish, mucus inside, reddish with pink bubbles on top. It is thought to multiply and is said to be a combination of various bacteria. To date, samples collected have died before they could be analyzed. And for the sports news. Again the Indianapolis 500 was postponed until hopefully this morning. Rain is

SL-II MC284/2

Time: 07:58 a.m. CDT, 6:12:50 GET
5/30/73

again expected, however, so race officials are cautious about whether the race will make its third starting date. And the Houston Astros lost to Pittsburg, 4 to 2 on Monday. And they lost last night to the Cubs 7 to 1. The White Sox beat Cleveland twice Monday, 6 to 3 in 21 innings in the extended game and 4 to nothing in the regular scheduled game. And that's all we have for this morning on this mornings news.

SC Rog, Houston. It looks like a beautiful morning down there.

CC Great. I think you can probably see it better than we can in here. Flight Director tells me that it is magnificent out this morning. It looks like a good day for an EREP.

SC We sure hope so. We can see from Matagorda all the way on up (static). How about scheduling another EREP pass to get the blob?

CC We'll work on.

SC Hey, Crip. I've got something for you.

CC Go.

SC My cold water drink dispenser is beginning to - it's just a little bit - handbook on page 4-81 has the procedures. There is no rush but obviously it's going to need to be changed out here one of these days so how about noting it down to schedule it because it looks like it's a fairly lengthy procedure. I really don't want to take the time to look and see but I remember doing it a long time ago and it oozes just a little bit but it obviously has got a bad O-ring in it.

CC Roger. Could you say where it's leaking at, Pete?

CDR Yeah, it's coming up right around the stem - the black stem and the brown knob that goes from fill to - brown knob, you know, through - you know, just oozing up between there a little bit.

CC Rog.

PAO Skylab Control, Houston, at 13 hours 4 minutes Greenwich mean time. That concludes our playback of the tape. We now show 31 minutes until acquisition of Skylab through Honeysuckle on the 229th revolution.

END OF TAPE

SL-II MC-285/1

Time: 08:33 a.m. CDT, 6:13:33 GET
5/30/72

PAO Skylab Control, Houston, at 13 hours 34 minutes Greenwich mean time. One minute away now from acquisition through Honeysuckle as the crew aboard Skylab will be preparing to start their work-day today. We'll stand by and monitor.

CC Skylab, Houston through Honeysuckle
2 minutes.

PAO We're receiving data, now, through Honeysuckle. No conversation, yet, with the crew. As we pick up, Paul Weitz should be loading the film magazine for S019, the UV stellar astronomy experiment.

PAO And - Science Pilot, Joe Kerwin, should be activating - -

CC - - Houston through Honeysuckle. We've got about 1 minute to LOS now. And we'll be seeing you at Goldstone at 03. And we'll dump the recorder.

SC Okay.

SC Hey, Hank. I've got a question on S019.

CC Go ahead.

SC According to the prep that Pete was instructed to do yesterday, we don't have the optical canister on it yet. Shouldn't I - I've got to put that thing on before I put the film on, right?

CC That's affirmative.

SC Well, something dropped down the crack then. All right. I'll pick up with that.

CC Roger.

SC I'm going to be behind again now, and it's all your fault.

CC Well, that's all right. We'll take our lumps.

PAO That was Paul Weitz talking to CAP COM, Henry Hartsfield, who is now occupying that position in the Mission Control Center.

PAO Meanwhile, Science Pilot, Joe Kerwin, should be activating the rotating litter chair for the M131 experiment, in which he will serve as an observer, and Paul Weitz will serve as a subject. This activity scheduled to start at about 1400 hours Greenwich mean time. Also scheduled to start at 1400 hours Greenwich mean time, will be an ATM experiment, with the commander, Pete Conrad, at the display and control console. We've had loss of signal through Honeysuckle. The next station to acquire will be Goldstone in some 24-1/2 minutes. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-286/1

Time: 08:56 a.m. CDT, 6:13:56 GET

5/30/73

PAO Skylab Control, Houston, at 13 hours 56 minutes Greenwich mean time. Some 6-1/2 minutes away, now, from acquisition through Goldstone, over the States. When we acquire Skylab, through Goldstone, we expect a live television of the Apollo telescope mount operations, with Commander Pete Conrad at the display and control console. He goes through the following sequence: 30 seconds TV of H-alpha 1; 15 seconds TV of H-alpha 2 (These are spectral lines denoting different fields of view.); 15 seconds of television of S052, the white-light coronagraph; and 15 seconds of the UV monitor. Three instruments are actually involved - the H-alpha television, the S052 telescope, and the XUV monitor, providing X-ray type emissions of the Sun. We're some 5-1/2 minutes away, now, from Goldstone. And at 13 hours 58 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-287/1

Time: 09:02 a.m. CDT, 6:14:02 GET

5/30/73

PAO Skylab Control, Houston, at 14 hours 2 minutes Greenwich mean time. Less than a minute, away now from acquisition with Skylab through Goldstone. During this pass we do expect a live television transmission of the Apollo telescope mount operation. Pete Conrad is scheduled, per the Flight Plan, to be at the display and control console. We'll stand by and monitor this pass over the States on the 229th revolution of the orbital workshop.

CC Skylab, Houston through Goldstone 11 minutes.

SC Roger, Houston. And I'll be getting ready to send you your down-link in just a second.

PAO That's Commander Pete Conrad replying to the call from Henry Hartsfield in the Mission Control Center.

SC Hank, you want to sing out when you've got enough, or you just want me to run through this down-link per the card?

CC We'd like for you to run it per the card.

SC Okay.

CC Okay. We had your H-alpha, Pete. But we're not getting anything now.

SC Okay. The white-light coronagraph power is just coming up.

CC Roger. Copy.

PAO Conrad reporting he's proceeding with the S052 - -

SC Doing a little cleanup, and I just barely made it to the panel in time.

SC Just to bring you up to date on our - -

CC Okay. We're getting you (garble) now, Pete.

SC Our fourth plainiff bag was stowed; so we have four full plainiff bags down in the stowage place. And the third suit was finished drying, and that's put away.

CC Roger. Copy.

SC And, also, I made an addition to stowage, which is on B channel. You might alert the stowage guys to listen to it.

CC Roger. We'll take a listen to it.

SC And there's your white-light coronagraph.

CC Got a beautiful picture down here.

SC Hey, did you see that thing go through the scope?

CC What was that going through there?

SC I don't know. It looks like another satellite to me, or something.

SL-II MC-267/2

Time: 09:02 a.m. CDT, 6:14:02 GET
5/30/73

CC Yeah. We saw two or three things zinging through there.

SC Oh. Paul says he thinks it's stuff outside the spacecraft. Here comes another one.

CC We're seeing your integration now, Pete.

SC I wish we could get the picture like integration shows.

SC I think 3-second ones are a little bit too long. I like the first one (garble), which were about a second. I don't know, you might give me a comment back.

CC Wilco.

SC You know, we might verify that with Houston, while we're - I'm sorry, in contact. Houston, we've not been using the event timer of the power-saving measure. Is that correct?

CC Stand by.

CC Roger. That's correct.

SC Okay.

PAO That was Joe Kerwin making that call.

PAO He, presently, should be performing the role as an observer for the M131 experiment, the rotating litter chair.

CC Skylab, Houston. We're about 1 minute to LOS. We'll be coming up on Bermuda at 16. And we went back and looked at that S019 thing. I guess we want to give a few of the lumps back. Our pad did call for going through the steps that install the optical canister. However, when we said, "Do not install film can," I guess it could have been confusing.

SC All I had, yesterday, was step 1-6; is it somewhere in there?

CC That's affirmative.

SC Okay. I'll take the (garble) box and go back and look.

CC No sweat. Don't worry about it.

SC Who (garble) now? I'm mad, and I want to know who to be mad at, you or Pete?

CC (A little humor in voice) I think it's with Pete's pad to cover. Why don't we call it even.

SC You won't say it's CDR. All right. I'd like to have a reason to pick on him today.

PAO That's Paul Weitz talking about the installation of film for the S019 experiment.

PAO We're approximately a minute and a half away from acquisition through Bermuda. This is Skylab Control, Houston.

END OF TAPE

SL-II MC288/1

Time: 09:15 a.m. CDT, 6:14:15 GET
5/30/73

PAO Skylab Control, Houston, at 14 hours
16 minutes Greenwich mean time. The Apollo telescope mount
console as well as the flight director on a - certainly on a
preliminary basis, were very pleased with the performance they
saw this morning during that Goldstone pass.

CC Skylab, Houston through Bermuda
5-1/2 minutes.

SC Roger, Houston.

SC Say, Houston. Are you with us?

CC That's affirmative. We've got about
3 more minutes.

SC Okay. Did you get the message about
82A on B channel last night? If not, let me run it by real
quick. When you get to the end of a sequence and you hit the
STOP, the OPERATE light stays on, and we can't tell whether it's
stopping or not; so we're either hitting a door switch or main
valve or drop - just to get it to stop. How about looking at
that.

CC Okay, will do. Okay. They did get the
message last night, Pete, and they have been looking at it and
trying to figure it out.

SC Okay. Thanks, Hank.

SC Henry, the main thing is that if we've
got to use that door switch to terminate the exposure - well,
so far, it's been reaction time plus 8 seconds for the door to
close, and they've been overexposed if that's really happening.

CC Roger; copy.

CC Skylab, Houston. About 30 seconds LOS;
Canaries at 26.

SC Roger, Houston.

CC CDR, Houston. If you're still with us,
we think you ought to be rolled to 1080.

SC Say again.

CC Roger. We think your roll ought to be
1080, 10,800.

SC Why?

PAO Skylab Control, Houston. We've had LOS
with Bermuda. The next station to acquire will be Canary in
approximately 3 minutes.

END OF TAPE

SL-II MC289/1

Time: 09:24 a.m. CDT, 6:14:24 GET
5/30/73

CC Skylab, Houston, through Canaries
9-1/2 minutes.
CC Skylab, Houston through Canaries 9 minutes.
SC Roger.
CC And we've taken a look at the S082. I
guess we've looked at all the telemetry and it shows that
we're getting correct framing and normal shutter operations
in fact, we don't see anything wrong with telemetry. And we
think you've probably got a ready operate light problem on board
and the relay is sticking to keep the light on and we feel that
there is no action required on your part to terminate the experiment.
SC Okay, Hank, thank you.
PAO The discussion on 82A centering around
the Apollo telescope mount. And more specifically the control
and display console. We've got approximately 7-1/2 minutes
remaining of acquisition time during this pass over Canary.
SC Houston, are you still there?
CC Roger, 5-1/2 more minutes.
SC Okay. Paul and I are starting the
M131 (squeal) We're 30 minutes late (squeal) for this
experiment.
CC Joe, you are unreadable. You're getting
a lot of squeal and feedback there.
SC (Squeal).
CC There is still too much feedback.
SC How you doing. Okay whenever anybody
uses the sail, that fouls up everything in the experiment until
we turn them off again. Okay, you have given us 1 hour to do an
OGI N&MS and I can tell you right now that isn't going to cut it.
And we're going to be later on the time line today. Our PT will
probably go away. And we'll call you after we're done to tell you
how much time to give us next time.
CC Okay. Good show. Why don't you do that
and then we can kinda get a hack at what this is really going to
take.
CC CDR, Houston. We have got you down
here in the auto 2 mode on S082A and I think the building
block called for a time mode. We're going to have to watch
that to keep within our film budget.
SC That's my favorite mistake. I've been
making it for a year.
CC Roger. It's easy to do.
SC Hey, Hank that's a function of the
powerdown. Why do we have go to the screwy darn switch
positions for those two experiments anyway?
CC We'll look into that one. And
we're about 30 seconds from LOS. Be coming up on Honeysuckle
at 1:1.

SL-II MC-290/1

Time: 10:09 a.u. CDT, 06:15:09 GET
5/30/73

PAO Skylab Control, Houston, at 15 hours
10 minutes Greenwich mean time. Coming up now on acquisition
of Skylab through Carnarvon - or rather, through Honeysuckle.
The Apollo telescope mount console still being manned by
Commander Pete Conrad. The television scheduled on this pass
is actually a TV dump. It's an engineering test on the Apollo
telescope mount. The test being done in the dark with a test
pattern on the back of the XUV monitor - this to measure any
possible degradation. Meanwhile, the first student experiment
should have been deployed by the time of acquisition. This is
the ED76 neutron analysis experiment, which is designed for
the measurement of the ambient neutron flux existent.

CC Ten minutes.

SC Okay. Houston, SPT.

CC Go ahead.

SC If you timed that, we're just now finish-
ing the OGI load on the PLT. If we go into the MS mode, we're
going to wipe out another hour.

CC Roger; copy.

SC Yeah, look, I got a suggestion on that.
It's going to blow the rest of today's flight plan with a
screw-up like that. We ain't gonna get ED76 done nor are we
gonna get TV 22. So I'd make a decision down there to
knock it off right now and try to get back on the time line,
or finish what you got going. One of the two.

CC Okay, I'll get right back to you.

CC Skylab, Houston. We concur with the de-
letion of TEAV 22 and ED76; we'd like to press on with M131.

SC Okay. Very good. Thank you.

SC Yeah, I don't know where you came up with
an hour for that one. And granted, it took an hour and a
half on the ground under the most ideal conditions for the
pass.

CC Roger.

PAO The rotating - the litter chair experiment
running longer than projected in the flight plan. That re-
port coming from Skylab. Present plan is to delay the de-
ployment of the educational experiment. That's ED76, and
the television dump, which is an engineering test over
Carnarvon.

PAO Skylab Control, Houston; 15 hours 15 min-
utes Greenwich mean time. Still under acquisition now through
Honeysuckle.

SC Houston, are you there?

CC Roger. Go ahead.

SL-II MC-290/2

Time: 10:09 a.m. CDT, 06:15:09 GET
5/30/73

SC Okay, I finally figured out what happened on S019 yesterday. My pad said go through step 6 on page 1-2. And I think it should have said go through step 6 on page 1-3, and then do step 7 on page 1-4. Try that one on it and see if I win.

CC

You win. It should have said page 1-3.

SC

Thank you.

SC

That's okay. We're even. You got me this morning on the ATM.

SC

While you're there and if you haven't got anything to do, let me tell you that a couple of changes we've made here and we haven't finally made the final one. But it turned out stowing the suits on the radial hatch was very poor. Even if you'd squashed the suit as hard as you can, you can't get all the air out of them, and in zero-g they really form the shape of a full-sized body. So we have restowed one suit on top of - let me get the lockers straight - 116 and 141. Then the other suit is down with its feet toward the drogue in the front end and it jets towards the S190 window heater control panel. And right at the moment, the third one is in back of the MDA hatch, so that we could close the hatch in a hurry if we had to. But that, to me, is not a satisfactory location. We're going to look around for another one, because it's sort of blocking some of the air vents back there. And I just moved that suit up here this morning. But we'll find another place for it and let you know where it is in case you want to pass that along to the other guys, you know.

CC

Roger. We copy.

CC

And, CDR, Houston. S019 is going to require a star tracker, and we need the dump - it'll be over in about another 5 minutes, and we need you to bring the star tracker back up, using the pad that's onboard.

SC

Okay.

CC

CDR, Houston. We're are a little concerned that the teleprinter didn't print what we sent up there. Our pads definitely said page 1.3 - or 1-3. And if you received a 2 up there, maybe we're not getting out what we're putting in.

SC

Well, did you have two pads, per chance, and the wrong one come up, because mine very definitely says page 1-2 and 1-4.

CC

Roger. Would you verify your message number.

SC

Unfortunately, it's in a particular file.

CC

Roger; copy.

SC

But it confused me yesterday only putting half of it on. And that's why I remembered specifically that it did say page 1-2, because I read it two or three times as to

SL-11 MC-290/3
Time: 10:09 a.m. CDT, 06:15:09 CET
5/30/73

why I got about half of this tape together, and that's not going right. But the pad says 1-2; so I'll do it.

CC Okay, we'll look into it. We may send you a test message here again. We're coming up on LOS, and we'll be coming to Hawaii at 30.

SC

Okay.

PAO Skylab Control, Houston; 15 hours 20 minutes Greenwich mean time. Passing out of acquisition now with Honeysuckle. The next station to acquire will be Hawaii in approximately 10 minutes. That last part of the conversation over Honeysuckle centered on a teleprinter message, describing procedures for film installation for the S019 experiment. That was Pete Conrad principally speaking of that subject. He had the task yesterday; Paul Weitz today. We've got approximately 9-1/2 minutes until we acquire Hawaii, and this is Skylab Control, Houston.

END OF TAPE

SL-II MC291/1

Time: 10:29 a.m. CDT, 6:15:29 GET
5/30/73

PAO Skylab Control, Houston at 15 hours
29 minutes Greenwich mean time. Less than a minute away
now from acquisition of Skylab through Hawaii on the 230th
revolution of the workshop. We'll stand by and monitor this
pass.

SC Go ahead Houston. We have the star.
CC Good show, thank you.
SC And Houston, CDR. Is it okay to do an
M (garble) momentum dump 3 minutes early?
CC Standby.
CC That's affirmative CDR. Go ahead.
CC Skylab, Houston. One minute to LOS.
Goldstone at 42 and is M131 still in progress?
SC I think so, Hank, they're probably on
B channel.

CC Roger. Copy.
PAO Skylab Control, Houston. We've had loss
of signal through Hawaii. The next station to acquire will
be Goldstone in approximately 1 minute 40 seconds. Commander
Pete Conrad has been working at the ATM display and control con-
sole most of the morning while Paul Weitz the pilot aboard
Skylab, after installing the film for S019 the UV stellar
astronomy experiment has been serving as a subject for the
M131 experiment, the rotating liter chair medical experiment.
Dr. Joe Kerwin has been acting as the observer for this. This
exercise taking somewhat longer than called for in the flight
plan. Weitz is scheduled to start the S019 into operation late
this morning. This setup in the scientific airlock and de-
signed to photograph 50 star fields with three exposures each
during the course of the mission when the Skylab is on the
dark side of the orbit. Standing by now for acquisition
through Goldstone at 15 hours 42 minutes Greenwich mean time
this is Skylab Control, Houston.

END OF TAPE

SL-II MC292/1

Time: 10:41 a.m. CDT, 6:15:41 GET
5/30/73

CC Skylab, Houston through Goldstone for
7 minutes.

SC Roger, Houston.

SC Houston, SPT.

CC Go ahead.

SPT Okay. We finished the M131 MS test
except for manually logging all the data which I will have
to do on B channel because we didn't get a program start
light at 0 RPM. So I went ahead and took the data manually
and I'll put it on channel B. The system does work okay and
positive RBM's. I checked that out.

CC Roger. Copy.

SC And let's see that was a total elapsed
time of about an hour and 25 minutes for both the ODI and the
MS mode.

CC Roger.

SC Say Hank, are you guys working 82A. I
haven't noticed any strange counters counting anything. I'm
still on frame 182.

CC Roger. We'll take a look.

SC GARBLE that's the one with the operate
light that stays on, but the frame counter is also not counting so
I'm getting suspicious.

CC Roger. We copy.

CC Okay, very good. We're there - you know
like you say when you sit down here you're not sure what
happened at the meeting. I mean did you come up with any com-
plete summary list of safety problem foods, you know, problem
foods GARBLE.

SC Houston, SPT; you still there?

CC Roger. We've got about a minute left,
Joe.

SPT Okay. Just wanted to ask you to add
ten minutes to that time estimate for the OGIMS for voice
recording and cleaning up the cards.

CC Roger. Will do.

SC We'd like to have you do it.

PAO Skylab Control, Houston; 15 hours 50
minutes Greenwich mean time, about 3 minutes away now from
acquisition through Bermuda.

END OF TAPE

SL-II MC-293/1

Time: 10:52 a.m. CDT, 6:15:52 GET
5/30/73

CC Skylab, Houston through Bermuda for
8-1/2 minutes.

SC Roger, Houston.

SC Houston, SPT.

CC Go ahead.

SC Hey, remember Rusty saying that he had arranged to have stowed on board more different kinds of mushrooms for the triangle shoes, besides the ones that were stowed on the ATM chair? I don't know where those are. Could you research that for me, please?

CC Will do.

PAO Skylab Control, Houston; 15 hours
56 minutes Greenwich mean time. Skylab now under acquisition through Bermuda. Very little conversation at this time. Our CAP COM in the Mission Control Center, Henry Hartsfield.

PAO The present Flight Plan would put Kerwin and Weitz in their physical training and personal-hygiene periods. Commander Pete Conrad apparently still manning the console of the - for the Apollo telescope mount. We've got approximately 5 minutes remaining in the Bermuda pass. We'll stand by and continue to monitor. This is Skylab Control, Houston.

CC SPT, Houston.

SC Houston -- (static)

CC SPT, Houston.

SC Go ahead.

CC Okay. We've got the answer on that.

Other than the ones that are screwed to the ATM chair, there are two mo.2 sets in D416.

SC D416. Thank you very much.

CC Skylab, Houston. One minute to LOS.

Canary's at 03, with a recorder dump.

PAO Skylab Control, Houston; 16 hours

3 minutes Greenwich mean time. We've had loss of signal through Bermuda. Standing by for acquisition with Canary.

CC Skylab, Houston through Canaries at

Ascension for 16-1/2 minutes.

CC And, SPT, I'd like to ask you a question,

if it's convenient.

SC Okay. Wait 1.

SC Go ahead, Houston.

CC Okay. Want to jog your memory a little

bit, Joe. Yesterday, we had you look at filament 62 - JOP 4, building block 3. That was at 0026. And today's pad calls

for observation of the exact same point in the filament, building block 3 at 17:13. And we asked you to jot down the

(garble). And it wasn't in the MDRS; so we need that informa-

tion to calculate our (garble) for today. Do you have that?

SL-II MC-293/2
Time: 10:52 a.m. CDT, 6:15:52 GET
5/30/73

SC (Laughter) I didn't write down the up
down left right, Hank. If that was in the summary sheet, I
missed it. However, I can point to the exact same orientation
in the filament from visual memory, if that'll do.

CC

Okay, Joe. Thank you.

SC

I guess it won't do, huh?

END OF TAPE

SL-II MC-294/1

Time: 11:06 a.m. CDT, 6:16:06
5/30/73

CC SPT, Houston. I guess we don't need that information as long as you remember and can point it to the same place. That's good.

SC Okay. Did the jump summary sheet have blanks for me to write down that stuff?

CC I don't think it did. I think that's our error.

SC Okay. If you want to, you know, uplink a correction for the sheet, we'll put it in.

CC CDR, Houston. No response required. We've looked at that S082A data again. And it appears to us that all the internal workings of the instrument are proper. And we think that perhaps your panel displays are incorrect.

SC Okay., Houston. Fine. I've been operating this thing (Garble).

CC Roger. And we want you to just to continue to use the instrument and disregard the OPS light.

PAO Skylab Control, Houston. That message passed on to Pete Conrad to continue to ah - -

CC Skylab, we're about 1 minute from LOS. We'll be coming up on Carnarvon at 46.

SC Roger.

PAO Message passed on to Pete Conrad, to continue with the Apollo telescope mount in the 82A

PAO We're 16 hours, 19 minutes Greenwich mean time. Seconds away now from loss of signal with Ascension.

PAO We've had Ascension LOS. The next station to acquire will be Carnarvon in approximately 26 minutes.

PAO This is Skylab Control, Houston, with an announcement. There will be a briefing on earth resources surveys from space at 2 P.M. today in the Johnson Space Center briefing room in building 1. The briefing is sponsored by the American Institute of Aeronautics and Astronautics. And will feature discussions from users of space sensing in such fields as crop management, timber surveys, and the energy crisis. This briefing will not be carried on the Public Affairs release line. A transcript will be made. This is Skylab Control, Houston.

END OF TAPE

SL-II MC295/1

Time: 11:45 a.m. CDT, 6:16:45 GET
5/30/73

PAO Skylab Control, Houston; 16 hours 44 minutes. We have acquisition now through Carnarvon.

CC Skylab, Houston through Carnarvon for 9 minutes.

SC (Garble) - We've had some problems with S019. Briefly, we're eating right now and reading the malf procedures - about to read the malf procedures (garble) is doing the TV stuff and all this stuff, but what it did, Hank, is it extended all right the lefthand knob, I figure, which (garble) (static) I believe, is very, very rough, stiff and jerky. I did not take it more than a degree and a half out of zero, because I didn't want to get it jammed out there. The righthand knob, which I think is rotation, doesn't work at all. It feels like the clutch is slipping. We're going to read the malf procedures, and if we don't hear any different from you, what we're going to do is pull it in and try to extend it inside the workshop and see if we can see what's hanging up on it.

CC

Roger. We concur.

PAO

Skylab Control, Houston. That callup from Joe Kerwin refers to the S019 UV stellar astronomy experiment, which is deployed through the scientific airlock to photograph star fields when Skylab is on the dark side of the orbit. We're presently under acquisition through Carnarvon and back-to-back with Honeysuckle.

CC

CDR, Houston.

SC

Go ahead.

CC

Okay, the CDR has an unscheduled house-keeping at about 18:12. Our CSM waste water is getting up to the limit now, and we'd like for him to utilize that period to do the CSM waste water dump of the OWS. And it's on page 1-18 of the CSM systems checklist, and it's one that we had previously XXed out. But we're in a configuration, and we need to use that method.

CDR

I understand that. We already did that the other night.

CC

Okay, and we need to do it again here at this time. And a little reminder for him, too, that we've got this CBRM mal we want to run at 18:36 over Guam.

SC

Okay. He'll try. That's pushing it awful close, Hank.

CC

Okay. That water dump should take about 15 minutes.

SC

No, it doesn't. It takes more than that if you monitor the water - the waste water tank, unless you guys have confidence that we can either time it or that you can monitor it.

CC

I guess we'd prefer for you to monitor it.

SL-11 MC295/2

Time: 11:45 a.m. CDT, 6:16:45 GET
5/30/73

SC The last time we did it, it took about
45 minutes.

CC Are the hoses still hooked up?

SC Negative.

CC I see. We were assuming everything was
all hooked up still.

SC Well, there are two reasons. First off,
we like to keep a neat ship, and secondly, based on conversations
prior to launch, we were under the assumption, all three of
us, that we were only going to have to average it that one
time.

CC Roger. We told, I forget who it was - we
told one of you guys the other day that we were going to have
to do it again today. We thought it would be tonight, but looks
like it's going to have to come earlier.

SC Roger. That was after we cleaned up.

CC Roger; understand.

CC Skylab, Houston. If you're running TV 3,
would you verify the video switch on the ATM?

SC Yep, you caught it.

SC You didn't miss much anyway, Hank.

CC Roger; copy.

SC Sorry about that, but it's not in any of
the checklists that are (garble) the TV book, and I guess I'm
going to have to sit down and write it in every page.

CC Roger. We're talking about that down
here, Pete, now. It seems there is going to be a problem of
coordinating between the ATM console and the other TV require-
ments.

SC (Laughter) One of my trash bags came
open, and unfortunately you can't see on the (garble) but your
CDR's in the corner chasing bits of pieces all over.

CC I wish we could see that.

SC I had crackers with my hot dogs today,
and I don't know if you've noticed what I've been reaching
at or not, but at little crumbs, because the crackers are -
tend to break, as you may have guessed, and they (garble) are
crummy.

CC Roger. We copy. Crummy crackers.

SC I guess it all (garble) as crummy is
a better word.

CC Roger. Crummy.

CC Skylab, Houston. In regard to the S019,
I'm sure you've already done this, but we would want you to
verify that the brake is off on the rotation, and if you do
retrack, we want you to go very slow and easy because the mirror,
I gather, is out of detent.

SI 11 MC295/3

Time: 11:45 a.m. CDT, 6:16:45 GET

5/30/73

SC No, I don't think it is, Hank. And we have - as a matter of fact I retracked it - I once extended it again. And we tried to do it again, and it does function all right. But I did want to go far out. Yes, we did have the brakes off, and we'll pull it back in. When I get a chance, I'll look at the malfunction procedures. And we'll at least drag it out one time while we've got it in there, and see what we can see.

CC Okay, good show. And we're about 30 seconds to 1:30; we'll be coming up on Hawaii at 09.

SC You there, Hank?

CC Roger.

SC You guys getting live TV?

CC That's negative.

SC Oh, okay. I thought you weren't getting it; that's how you remembered to switch. But I'm glad somebody thought of it anyway.

CC Roger. ENCO can monitor that switch position.

SC

PAO

Going there from now on in (garble). Skylab Control, Houston; 16 hours 56 minutes Greenwich mean time. Skylab now passing out of acquisition with Honeysuckle. The next station to acquire on the 231st revolution will be Hawaii in some 12-1/2 minutes. During the Honeysuckle pass, Paul Weitz reported that he has deployed and taken back in, a couple of times, the S019 boom. And based on the last report, he will attempt to bring it back in again and see what the problem might appear to be, looking over the equipment in concert with the malfunction procedures. The crew apparently having lunch during this pass. And also a report of a late callup of turning on a TV switch to show a scene of the crew eating. However, a call was made from the ENCO flight console position here in Mission Control that the switch was not on. And this was remedied by Paul Weitz aboard Skylab. We're at 16 hours 57 minutes Greenwich mean time, and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-296/1

Time: 12:07 p.m. CDT, 06:17:07 GET
5/30/73

PAO Skylab Control, Houston; 17 hours 7 minutes Greenwich mean time. Standing by now for acquisition of Skylab through Hawaii Tracking. This is scheduled as a 6-minute pass over Hawaii.

SC Houston, SPT.

CC Go ahead.

SC I take it from our previous talk that the PI's want me to use precisely the same pointing and roll on (garble) 62 that I used yesterday. That's done on the pad, is that correct?

PAO That's Joe Kerwin calling from Skylab, who has now replaced Pete Conrad at the control and display console of the Apollo telescope mount.

CC I want you to do, Joe, is just get as close as you can to what you had yesterday.

SC Okay, but I'd like them to put that kind of stuff on the pad if they do this in the future, because it's not in the summary sheet. In fact, my interpretation would have been the opposite. If they asked for advice from the ground, I would have told them it had a different part of it, ordinarily.

CC Roger. That's a good point.

CC And, Skylab; Houston. For information, we've been experiencing some sub-comm problems on our ATM data, and we're going to be trying to cure this by switching some equipment around the PCM system via commands.

SC Okay, we got the F power off.

CC And I have one other thing I'd like to throw out for you. This afternoon, after we get the EREP going, all of you are going to be top-side. And we were wondering how you felt about maybe turning all the lights off down in the workshop, at least minimizing the lights, to help with the power problem, because we're going to be running the batteries down on the EREP.

SC Yeah. Okay, Hank. We've been doing that. We're running with - we try and keep all the lights out down here as we possibly can. So we've been running low power, and we will turn them all out down here.

CC Okay. Good show, Pete.

SC And say, Hank, when do you plan to dump the VTR? The reason I say that is I'm a little ahead right now, and I think I can stay ahead on the water dump and everything. And if I can help Paul on 19, we may pick up some of this TV22, which only takes just a couple of few minutes, and we can fake it - him doing it again; he's already deployed it.

CC Okay. Let me get an answer on that.

SL-II MC-296/2

Time: 12:07 p.m. CDT, 06:17:07 GET
5/30/73

SC Hank, a little clarification on S019.
CC Go ahead.
SC Okay, just to make sure that you understand what I'm talking about, because I think I had the knobs backwards. It's the rotation that is very stiff and jerky and difficult to turn. And it's the tilt knob which is free-wheel. That's just clarification.
CC Roger. Thank you.
SC And, Houston; CDR. We got you about 20 minutes on that tape - TV3. Five of it of a blank ATM in 15 per TV3, which I think is what you need. It looked pretty good to me.
CC Roger; copy.
PAO Skylab Control, Houston. We earlier heard Paul Weitz on this pass describe the S019 equipment, which he has again brought back inside.
CC Skylab, we're about 1 minute from LOS. We'll be coming up on Goldstone at 21, and we'll have an answer for you on the VTR there - when we're going to get it dumped.
SC Okay. If you're either going to get it dumped real fast, fine. We can do it later tonight, or if you can hold it, why, you know, it doesn't make any difference to us. We can pick up that 22 anytime.
CC Roger; copy.
PAO Skylab Control, Houston; 17 hours 16 minutes Greenwich mean time. We've had loss of signal with Hawaii. Goldstone acquisition in approximately 5 minutes and 15 seconds.
SC Hey, Hank, you still there?
CC Roger.
SC Henry - -

END OF TAPE

SL-II MC297/1

Time: 12:18 p.m. CDT, 6:17:18 GET
5/30/73

SC We're re-reading the checklist. It seems the one step I overlooked in SO19 was opening the film hatch. That's in no way related to the problem is it?

CC We'll check it.

SC I don't see how it could be but you might as well check it before I bring it in out of the airlock.

PAO That was a bonus callup from Pilot Paul Weitz. We still show 2 minutes 40 seconds until time of acquisition through Goldstone. Apparently reaching the control center through Hawaii.

CC Skylab, Houston through Goldstone for 5 minutes.

SC Go ahead.

CC Skylab, Houston for the PLT you are absolutely correct there is no relation between the film hatch and the problem you've got.

SC Yeah, (garble) especially since we run the same gear at 183 and don't even have that on. I just wanted to verify it though.

CC CDR, Houston. It's going to take us another REV and a half to get the VTR dumped and we'll give you a GO when you're clear to use it again.

CC Skylab, Houston. One minute until LOS; Bermuda at 30.

PAO Skylab Control, Houston; 17 hours 28 minutes Greenwich mean time. We've had loss of signal with Goldstone; some 2-1/2 minutes away now from acquisition of Skylab through Bermuda.

PAO Skylab Control, Houston. Presently Science Pilot, Joe Kerwin manning the display and control console for the Apollo telescope mount and Pilot Paul Weitz working with the malfunctioning SO19 experiment equipment.

PAO Skylab Control, Houston. Standing by now for acquisition with Bermuda. This should be about an 11 minute pass.

CC Bermuda for 11 minutes.

SC Good.

END OF TAPE

SL-II MC-298/1

Time: 12:33 p.m. CDT, 6:17:33 GET
5/30/73

PAO Skylab Control, Houston; 17 hours
36 minutes Greenwich mean time. Some 5 minutes 20 seconds
remaining on this pass. Literally no conversation with the
crew during the Bermuda pass thus far. We'll stand by and
continue to monitor.

SC

Calling Houston, CDR.

CC

Roger.

SC

dump.

Okay. I just commenced the water tank

CC

Roger. Thank you.

CC

from LOS. Be coming up on Ascension at 48, with a data recorder
dump.

Skylab, Houston. We're about 30 seconds

SC

Okay.

PAO

Skylab Control, Houston, at 17 hours
41 minutes Greenwich mean time. We've had loss of signal
through Bermuda. The next station to acquire will be
Ascension in approximately 6 minutes. Very little conversa-
tion during our pass over Bermuda for Skylab.

END OF TAPE

SL-11 MC-299/1

Time: 12:45 p.m. CDT, 6:17:45 GET
5/30/73

PAO Skylab Control, Houston; 17 hours
47 minutes Greenwich mean time. Standing by now for
acquisition of Skylab through Ascension. Skylab now on its
232nd revolution.

PAO We're now receiving data through
Ascension. This should be a pass of some 10 minutes in
duration.

CC Skylab, Houston through Ascension for
9-1/2 minutes.

SC Okay.

SC PLT, Houston. If it's convenient, I'd
like to get a question answered. Could you get the full
13 turns on extending before you hit the stop?

SC That's affirmative. As a matter of fact,
it went out 13-1/2.

CC Roger. Copy.

SC I got it in now. I've got the business
end off and I'm just about to go ahead and extend it in the
cabin.

CC Roger. Understand.

SC And, I've got a question for you, something
we've been mullin over. These even passes are going to mainly
be over the states, where you're going to have pretty good
coverage. What do you think of, if we switch the voice
recorder to Channel A and run - set the hard mike on Channel A
during the Europe pass. Is that a good idea or not so good
idea?

CC We would love that.

SC Okay. Because, we all have to be on
the same channel anyway.

SC Well, we'll set that up (garble) that. We'll
go ahead and a few minutes before switch the voice recorder
to Channel A and then just go ahead and press that hard mike
Channel A.

CC Roger. Very good. We concur.

SC Well, I haven't looked at the EREP operating
status. It's my assumption we will operate all experiments
today even though they may subsequently turn out to be in a
degraded mode.

CC That's affirmative.

SC Say, Hank. Can you find out whether
we're going to dump the waste tank any more or not.

CC CDR, Houston. EGIL assures us that this
should be the last dump.

SC Okay.

SC Well, I knew we were going to have to
dump them one more time. I didn't think it (garble) like that
said.

CC Roger.

SL-II MC-299/2

Time: 12:45 p.m. CDT, 6:17:45 GET
5/30/73

CC CDR, Houston. The reason we're - we've filled up a little faster than we expected. As you recall, we had to put that other inverter on the line. So, we're pulling a few more amps than we had anticipated. And we need that inverter to keep the water glycol up. Right at 10.

SC Okay. No sweat.

PAO Skylab Control, Houston; 17 hours
56 minutes Greenwich mean time. Less than 2 minutes remaining on this pass over Ascension.

CC Skylab, Houston. We're about 1 minute from LOS; Carnarvon, at 20.

SC Roger.

PAO Skylab, Control, Houston; 17 hours
58 minutes Greenwich mean time. We've had loss of signal now with Ascension. The next station to acquire will be Carnarvon in approximately 22 minutes. During our Ascension pass, Pilot Paul Wietz, continuing to trouble shoot the UV stellar astronomy equipment, which he now has inside. Also, Wietz made a proposal to mission control regarding the U.S. passes. That would be to switch their voice descriptions to Channel A vs Channel B. Giving live voice data. The EREP pass is essentially over the west and southwestern parts of the United States. The passes scheduled to occur between 20 hours 35 minutes Greenwich mean time and 20 hours 58 minutes Greenwich mean time. For this first EREP pass, this will require an attitude change, moving Skylab from a solar inertial attitude to an attitude watching the rotation of the earth below, so cameras and sensors can remain fixed onto the earth's surface. 25 separate sites are identified for this first EREP pass, which follows ground track 20 from the coast of Oregon across western Nevada, Utah, Arizona, New Mexico, Texas, the Gulf of Mexico, Central America, Columbia. We show approximately 20 minutes until we acquire Skylab again over Carnarvon. And at 1800 hours Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC300/1

Time: 1:18 p.m. CDT, 6:18:18 GET
5/30/73

PAO Skylab Control, Houston, at 18 hours
18 minutes Greenwich mean time; approaching acquisition now
with Carnarvon. The ambient cabin temperature in the orbital
workshop now reading 84.7 degrees. This temperature plot -
the temperature plot continuing to show a trend to
drop at night during the crew rest period. About a 3-degree
drop last night. And the temperature tends to remain essentially
stable during the daytime periods when the crew is up and
active. We're about a minute away now from acquisition with
Carnarvon. We'll stand by and monitor the callup from CAF COM
Henry Hartsfield.

PAO Skylab Control, Houston. Now receiving
data through Carnarvon.

CC Skylab, Houston through Carnarvon for
10 minutes.

SC Hank, I've got a few words on S019.

CC Go ahead.

SC Houston, SPT. You're going to tell me
when you're ready, right?

CC Talking about the S054 powerup, Joe?

SC Yes.

CC Okay. We're looking at it. We'll give
you a go when we're ready.

SC Thank you. Hank, you want a few words
on S019?

CC Roger. Go ahead.

SC Okay. We pulled it in. Extended it
inside. We got the rotation freed up. It runs fairly free.
It hangs up as though there is a burr or something, and I tell
you, we're suspicious that it may be the degrees counter, be-
cause it does it every degree, not full degrees - between -
the 0.5 and 0.6 part, but it does it once every degree
indicated there. The (garble) is - appears to be completely
frozen. We can't get it to turn regardless of where we get a hold
of that drive mechanism.

PAO A training model of the S019 equipment -

CC Station won't turn at all. And say again
about the tilt.

SC I'm thinking. Wait a minute. Rotation -
now the rotation knob works. It's freed up, and it works. And
that's the one that hangs up every degree, once a degree. The
tilt arm is the one that we cannot get to move at all. The crank
handle turns, but, as I remember, there is a foot clutch in
those handles, and we think that it's just - that's what we're
turning. And in regard to where we get a hold of that drive
mechanism inside the box, we can't get it to turn. It is
really frozen solid at tilt.

SL-11 MC300/2

Time: 1:18 p.m. CDT, 6:18:18 GET
5/30/73

CC Okay, we got one sitting right here, and we almost duplicated this thing, I think, by jamming up the drive somewhere.

SC Yeah, well we can try anything.

SC Hank, that's exactly what I think happened. I think there was a burr or something like that, and in zero-g it floated into that little (garble) gear chain somewhere, but the question is where?

CC Well, that may be a problem. We jammed it with a pencil, and we got about the same thing that you had described.

SC Well, I'm convinced that that's what it is. I'm also convinced that's what's in the tilt mechanism. It's probably a little burr up in the gear drive that goes to the number of degrees counter, and we're just clicking over that one about - is it stuck on some gear, you know, and it comes up in a nice ratio. But the other one - there's got to be a burr or a piece of dirt or grit. It's one of those five gears that drives that thing in tilt. Also be advised that I'm standing by to do your CRBM thing any time.

CC Okay, we're ready any time, Pete.

PAO A training model of the SO19 equipment has been brought into the Mission Operations Control Room from the Corollary Staff Support Room, where it has been diagnosed previously.

CC Paul, we ran the mirror assembly out all the way, and if you're looking forward along the device and on the left side, there is a little drive gear exposed. And when we jammed that, we got these bind-ups. When it would finally break loose, it would act about every degree, just like you described.

SC That sounds very much like it. It was very tough. We just finally had nothing to lose, and now it's working fairly freely now. I get confident that it could work; however, the binding in the tilt - we can't move that at all. I think the rotation's quite usable now.

CC Okay.

CC FLT, Houston. Did you take off the optical canister and take a look into the gear box there in the PMS.

SC That's affirm. Sure did.

SC Hey, Hank. I'm on the bicycle right now and a little unscheduled trying to make up for what I did this morning. Do we get a raise today sometime when I can be - maybe we can both be looking at this thing talkmarking at the same time, or I can get off the bike right now and look at it, if you want.

CC Oh, no. Go ahead, and then we'll think about it a little more and get with you later.

SC Okay.

SL-11 NC300/3

Time: 1:18 p.m. CDT, 6:18:18 GET

5/30/73

CC CDR, Houston. We gave you a bad call on that CBRM. We've got to wait for the daylight before we can check that out.

SC Roger. He had just noticed that and secured doing the operation for that reason. And are you ready for S054 yet?

CC Joe, we're still having this same data problem. We'd like to delay now until Guam and - so we can get some good data.

SC Okay.

CC And from LOS now. Guam will be coming up in 33.

PAO That last callup - Henry Hartsfield talking to Joe Kerwin, who is now manning the position controlling the Apollo telescope mount activity. We're less than a minute away now from loss of signal through Carnarvon.

PAO Skylab Control, Houston; 18 hours 31 minutes Greenwich mean time. We've just had loss of signal with Carnarvon. The next station to acquire is Guam in just over 2 minutes.

END OF TAPE

SL-II MC-301/1

Time: 13:33 CDT, 6:18:33 GMT
5/30/73

PAO Skylab Control, Houston, 18 hours 33 minutes
Greenwich mean time. We are acquiring data now through Guam
tracking.

CC Skylab, Houston, through Guam for 9-1/2 minutes
and SPT we're GO for S054 power up.

SPT Okay, be with you in a minute.

PAO That call-up from Henry Hartsfield to Joe
Kerwin who is managing the Apollo telescope mount display and
control console, SO-54, the X-Ray spectrographic telescope
experiment.

SPT Okay, Houston. The (garble) switches are
ON.

CC Rog, copy.

SPT Houston, SPT. About the only thing we see
that's the least bit off nominal is that the PMEC count is
tends to go over 200. Its cycle is as high as 400 orso. It
averages around 100 or a little less.

CC Roger, we copy.

CC SPT, the 54 high voltage looks good
to us.

SPT Okay, thank you.

PAO Joe Kerwin in the process of powering up
the X-Ray spectrographic telescope experiment.

PAO About 7 minutes remaining on this pass of
Skylab over Guam.

SPT Houston. When is SO-56 going to follow us
through?

CC Okay, we're standing by now, Joe.

SPT Okay.

CC You are standing by - you are indicating
the X-REA weren't you Joe?

SPT Yes sir, I was.

CC Okay, we're still waiting on that pressure
thing and we don't know when that's going to happen and every-
body's happy with it.

SPT All right.

SPT And Pete's ready to do the CBRM stuff if
you're ready for him.

CC Okay, we're ready.

CDR Okay, it was right Houston, no draw
on any of them.

CC Roger, copy.

PAO Skylab Control, Houston, 18 hours 40 minutes
Greenwich mean time. That was Pete Conrad going through a malfunc-
tion procedure, trying to bring battery 15 back on the line,
unsuccessful at this point in a malfunction procedure. We've
got about 3 minutes remaining on this pass over Guam and this

SL-II MC-301/2

Time: 13:33 CDT, 6:18:33 GMT
5/30/73

is Skylab Control, Houston.

CC CDR, Houston. Because of the way our
telemetry updates down here we'd just like to verify that you
did cycle this thing five times.

CDR Yes sir, I did.

CC Okay, thank you sir.

CC Skylab, Houston. We're about 20 seconds
from LOS coming up at Goldstone at 59.

SPT Roger.

PAO Skylab Control, Houston at 18 hours 44
minutes Greenwich mean time. We've had loss of signal now
with Skylab through Guam. The next station to acquire is
Goldstone at approximately 15 minutes. During this pass the
Commander Pete Conrad tried unsuccessfully some malfunction
procedure tests, the CBRM test to try and bring battery 15
back on the line, unsuccessfully as it turns out. Also, in
the mission control center continuing to trouble shoot with
a training version of the SO-19 equipment. We're at 18 hours
44 minutes Greenwich mean time and this is Skylab Control,
Houston.

END OF TAPE

SL-11 MC-302/1

Time: 13:57 CDT 06:18:57 GMT
5/30/73

PAO This is Skylab Control, 18:57 Greenwich
mean time. A minute and a half out of Goldstone for a fairly
solid stateside pass, crossing the Washington coast, coming
out around Jacksonville, Florida, on the Atlantic coast.
During this pass the video tape recorder on board Skylab
will be dumping previously taken television scenes, and they
will be played back as received. Transmitted as received
along the television release circuit. They're not - as opposed
to live television - these are VIR real-time playbacks, if
that is clear. Standing by for AOS Goldstone, Skylab Control.

CC And Skylab, for info, we'll be dumping
the data recorder on the latter part of this pass over
Bermuda at about 08.

END OF TAPE

SL-II MC-303/1

Time: 14:07 CDT 06:19:07 GMT

5/30/37

CC Skylab, Houston for the PLT, info only, no response required. We've got an update on the weather for a couple of your sites. Site 125, Smoke Creek is now point 8 cloud coverage. And 320, White Sands is up to 0.4 now. And for the CDR, looks like we may get a run at Indy, they've started the engines. I think the weather is finally starting to cooperate.

CDR Thank you, Hank, and be advised, we're on A RECORD now.

CC Roger. Copy.

CC Skylab, Houston. We're a little over 10 seconds on IOS. We'll be coming up on Carnarvon at 59, at the end of the first lap Mark Donahue is in the lead.

PAO This is Skylab Control. We've had a loss of signal through the Bermuda station. Next station Carnarvon in 40 minutes. The crew rather quiet during that stateside pass as they get prepared for the upcoming Earth Resources pass, on the next stateside run. At 19:17 Greenwich mean time, Skylab Control.

END OF TAPE

SL-1 MC-60/1

Time: 12:00 Noon, 02:23:30 GET
5/17/73

PAO This is Skylab Control at 1700 hours GMT. The Skylab space station at this particular time is across the - across Mexico and out in the Gulf of Mexico tooling south of Houston. It will cross the continental United States in the vicinity of New Orleans; heading northward past such populous areas as Philadelphia, New York City, and the New England states. The telemetry coming down to the Control Center here from the Skylab space station indicates that it is still in a stable position with the temperatures generally in the range that have earlier been broadcast. I'd like to pass this advisory to the press. John Disher, Deputy Skylab Program Director, will make an announcement and meet with the press at 12:30 P. M. central daylight time in the News Center briefing room at the Johnson Space Center. We plan to have two-way question and answers from the Cape for this announcement. Repeating, Deputy Skylab Program Director, John Disher, will make an announcement and meet the press in Houston, 12:30 P. M. in the News Center briefing room. At 17 hours 2 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC-61/1

Time: 12:10 PM CDT, 02:23:40 GMT
5/17/73

PAO This is Skylab Control. May I have your attention again, please. John Disher, Deputy Skylab Program Director, is scheduled to make an announcement and meet the press at 12:30 PM Central Daylight Time in the News Center briefing room at the Johnson Space Center. We'll have two-way audio hookups between the Skylab News Center at KSC and the Skylab News Center at JSC. This is Skylab Control.

END OF TAPE

SL-1 MC-62/1

Time: 12:18 p.m. CDT, 2:23:50 GET
5/17/73

PAO This is Skylab Control. Repeating my earlier announcement that John Disher, Deputy Skylab Program Director, will make an announcement and meet with the press at 12:30 p.m. central time - central daylight time; 1:30 p.m. eastern daylight time. And Disher's press conference will be in the News Center Briefing Room at the Johnson Space Center. We'll have two way audio hookups between the Skylab News Center at KSC and at JSC. This is Skylab Control.

END OF TAPE

SL-1 MC-63/1

Time: 2:00 p.m. CDT, 3:01:30 GET
5/17/73

PAO This is Skylab Control at 1900 hours Greenwich mean time. The Skylab space station at this time is over the continent of Africa after having started revolution number 45. As it passed over the States and was in contact for some considerable time, the flight controllers here reviewed their status boards and found that there were essentially no changes in the telemetry indications that are coming down from the spacecraft. To recap, John Disher, Deputy Skylab Program Director, announced to the press earlier today that the decision had been made to launch Skylab 2 on May 25, or a week from tomorrow. Launch times are set at 9:02 a.m. eastern daylight time, or 8:02 a.m. Houston time. At 1900 hours, 1 minute Zulu, this is Skylab Control.

END OF TAPE

SL-1 MC-64/1

Time: 17:08 CDT, 03:04:37 GMT
5/17/73

PAO This is Skylab Control at 22 hours
8 minutes, Greenwich Mean Time. In lieu of a flight
director's briefing at the News Center tonight, which
could not be scheduled before 9:30 or 10:00 p.m., a
status summary of the Skylab 1 vehicle will be presented
on this line at 6:00 p.m. central daylight time. To
repeat, there will be no flight director's briefing in
the News Center tonight. A status summary will be
presented on this release line at 6:00 p.m. central
daylight time. Skylab Control.

END OF TAPE

SL-L MC-65/1

Time: 18:00 CDT 3:05:30 GET
5/17/73

PAO This is Skylab Control at 23 hours Greenwich mean time. Three days 5 hours 30 minutes since the launch of Skylab 1. There have been no new failures in the vehicle today. There is still a problem with rate gyro drift, and this problem is still not fully understood. The internal gas temperature of the workshop appears to have stabilized at about 105 degrees Fahrenheit. The vehicle is at a 50 degree pitched up attitude. Plans are to maintain this attitude indefinitely. It is the optimum attitude for thermal control while still maintaining energy balance. Work is progressing in the Control Center, and will continue throughout the night on rendezvous plans, crew checklist changes, and command module stowage list changes. Skylab is in the 47th revolution of the Earth, just passing over the northeast coast of Australia at this time, in an orbit 238.3 by 236 nautical miles. The orbital period is 1 hour 33 minutes 22 seconds, velocity 25,114 feet per second. This is Skylab Control.

END OF TAPE

SL-1 MC-66/1

Time: 7:00 AM CDT, 03:15:31 GMT

5/18/73

PAO This is Skylab Mission ... the hour. The spacecraft at the present time is traveling over Asia, beginning a descending node. Planning continues on procedures to be used by the crew after their rendezvous with the Skylab space station. Work items now under consideration includes studying the effect. Our command module temperatures of holding the space station at the 55-degree pitch required for temperature balance in the workshop. They're also considering budgeting fuel for the reaction control system used to maneuver the command module. They're now selecting targets for television and photos during the period of reconnaissance from the command module. And they're also evaluating possible contamination effects from drive around, deployment of solar panels, removal of debris, and methods of limiting contamination to crew in cockpit by the reaction control exhaust during the period when the command module hatches open, and a standup of EVA is performed. During the night, internal temperatures have continued stable at approximately 105 degrees with the attitude held at a 55-degree pitch. No attempt has been made to improve the performance of attitude rate gyros, because modifications would require a return to solar inertial attitude and a consequent increase in temperatures on the Sun side of the orbital workshop. Instead, flight controllers are determining the spacecraft's attitude from data on the external skin surface temperatures and from the electrical power generated by the ATM solar panels. Flight controller is Charles Lewis. He'll be going off at 8 o'clock central daylight time. Mr. Lewis reports that to go into solar inertial would require an additional fourteen revolutions at 55-degree pitch to bring back the temperature to it's present level of ratio, being about 1 to 14 for solar inertial of this 55-degree pitch that they're traveling at now. Following next Friday morning's launch at 8:02 a.m. central daylight time, the command module is expected to intercept the workshop 2 minutes after loss of communication signal at Guam tracking station. And 15 minutes before signal is acquired at the Goldstone station in California. The television pass over the United States from California to the Merritt Island station will last approximately 17 minutes. Rendezvous and television will all be conducted in a daylight pass beginning before Guam. However, with this new launch time, no television will be available from Carnarvon, where darkness will prevail at - if there is a nominal launch. This is Skylab Mission Control at 4 minutes and 10 seconds after the hour.

END OF TAPE

SL-1 MC-67/1

Time: 8:00 a.m. CDT, 3:19:30 GMT
5/18/73

PAG At 1 second after the hour, this is Skylab Mission Control. The Skylab space station is presently passing over South America on an ascending node, traveling from southwest to northeast just at the beginning of revolution number 56. The station is traveling at 25,111 feet per second in a near circular orbit 235.7 nautical miles at its lowest point and 238.3 at its highest point. Internal temperatures recorded at the last tracking station at Honeysuckle show storage lockers and internal walls of the crew wardroom with temperatures ranging from 90 degrees Fahrenheit to 109 degrees Fahrenheit. Off-going flight director, Charles Lewis, is now briefing Donald Puddy, whose crimson team of flight directors will be taking over for the next 12-hour shift. We expect Flight Director Lewis to be available at an 8:30 central daylight time for a change-of-shift briefing in building 1 at Johnson Space Center. This is Skylab Mission Control at 1 minute and 5 seconds after the hour.

END OF TAPE

SL-1 MC-68

Time: 8:44 a.m. CDT, 3:20:14 GET

5/18/73

PAO This is Skylab Mission Control at
44 minutes and 14 seconds after the hour. Flight Director
Charles Lewis has now left Mission Control and turned over
his duties to Donald Puddy. He's expected to be in building 1
for a press conference in approximately 7 to 10 minutes.
This is Skylab Mission Control at 44 minutes and 30 seconds
after the hour.

END OF TAPE

SL-1 MC-69/2

Time: 10:00 a.m. CDT, 03:21:30 GET
5/18/73

pieces that may have been used in experiments S020, T025, and M555. These are, however, still preliminary assessments, and people in the flight operations management room inform us that there may be changes made. This is Skylab Mission Control at 3 minutes and 7 seconds after the hour.

END OF TAPE

SI-1 MC-70/1
Time: 11:00 a.m. CDT
5/18/73

PAO This is Skylab Mission Control on the hour. Preliminary reports from the flight operations management room at Skylab Mission Control in Houston indicates some changes in flight plan for the first 28-day mission. The crew is at present expected to remain aboard the command module for up to 5 days after launch to determine whether or not a full 28-day mission will be possible. This is in contrast to the single night originally planned. This will require planners to include additional items for personal hygiene and waste management. No details are yet available on the size and weight of the hygiene kit. Of the 270 different scientific and engineering experiments planned for the three Skylab missions, only four are now under consideration for possible deletion or partial deletion from the first 28-day flight. At the present time, experiment T025, which studies changes induced in the vacuum around Skylab because of waste water dumping and attitude control thruster firings, is - and requires a clear view from the scientific airlock on the Sun side of the orbital workshop, is one of those under consideration for deletion. Another experiment, requiring the use of the scientific airlock, is S020, the ultraviolet X-ray solar photography study, which will determine the temperature, density, and composition of certain solar flare gases. This, too, is under consideration for a possible deletion. A third experiment now expected to be deleted is part of experiment T027, the part dealing with the sample array. For this project, to determine changes in optical properties of 200 sample specimens, the scientific airlock must also be used to extend the sample outside the space station. A partial deletion is also under consideration for experiment S073. Those experiments to repeat are: T025, S020, T027, and possibly S073. These are tentative changes depending on other requirements still under study. During the past hour, the spacecraft has made a slight attitude correction to dump the control moment gyros. This took place over the Australian tracking stations. This is Skylab Mission Control at 2 minutes and 27 seconds after the hour.

END OF TAPE

SL-1 MC-71/1

Time: 12:00 Noon CDT, 03:23:30 GET

5/18/73

PAO This is Skylab Mission Control at 2 seconds after the hour. Midway through its 58th revolution, the spacecraft is now traveling on a descending node over the Indian Ocean. It is on the dark side of the Earth. At the highest point in its orbit, it is now 237.7 nautical miles above the surface of the Earth; at its lowest point, 235.4 nautical miles. Present speed for this space station is 25,096.6 feet per second. The period of revolution is 1 hour 33 minutes and 22.3 seconds. Flight Director Donald Puddy has requested his guidance and navigation controller to provide him with instructions that will allow the greatest possible conservation of gas used by the thruster attitude control system. While maneuvering required to provide stable temperatures in the orbital workshop section of the space station has used about 24 percent of the total supply of attitude control gas, the remaining gas is more than double the minimum amount required to conduct all of the experiments originally planned for an 8-month period, with three separate astronaut teams. Nevertheless, flight controllers are taking action to maintain as large an excessive reserve of attitude control fuel as possible. Notes on work, that might be done by the first Skylab crew to deploy one of the solar panels that is believed to have stuck when the meteoroid shield was torn off shortly after Monday's launch, suggest that the efforts will be made during the first daylight pass of the standup EVA. Attempts to deploy one solar wing will be made only if the crew feels that it can be done without difficulty. Because the wing has been on the shadowed part of the space station, the temperature may be too low for the solar panels to move out freely without further assistance. Even if obstructions are removed by the astronaut, if the crew does not believe it can free the solar panels, which would provide another 6000 watts of electrical generating power, engineering photos will be taken for use in planning the following second Skylab manned mission. This is Skylab Mission Control at 2 minutes and 10 seconds after the hour.

END OF TAPE

SL-1 MC72/1

Time: 13:00 CDT, 4:00:30 CET
5/18/73

PAO This is Skylab Mission Control at 1 second after the hour. The spacecraft at this time is passing over Michigan from the southwest to the northeast, and just about to begin its 59th revolution. At its highest point in the orbit, the spacecraft reaches a height of 238.0 nautical miles, and the low point in its orbit is 235.7 nautical miles. It's revolving once every 1 hour 33 minutes and 12.4 seconds. The speed at the present time is 25,098.8 feet per second. A rough schedule of the events following a Friday launch at 8:02 central daylight time has been worked out for planning purposes. The command module was expected to intercept the space station over the North Pacific about 3:43 p.m. central daylight time, two minutes after communication signal is lost at Guam tracking station. The space station will be rolled to place both solar array wings in sunlight. Then the commander will circle the space station, pointing the command module nose at Skylab as he surveys the damage to determine, first, whether debris must be cleared, second, whether solar wing extension is possible and will be attempted, and, third, whether the thermal blanket will be deployed. If these are all - these acts are all completed in sunlight with 17 minutes of television time, from 3:57 to 4:13 p.m. central daylight time, available over the United States, then further activities will be performed. If docking is not completed before sunset, at about 4:24 p.m. central daylight time, the crew will wait until it comes back into the sunlight. At that time they will soft dock, using capture latches only, eat, and prepare for a standup extravehicle activity. Repeating the first paragraph for Houston. The spacecraft at the present time is traveling out over the northern part of the United States from southwest to northeast. Just beginning revolution 59. The high point in its orbit is 238.0 nautical miles. The low point in its orbit is 235.7 nautical miles. The revolutionary period is 1 hour 33 minutes and 12.4 seconds, with a speed of 25,098.8 feet per second. This is Skylab Mission Control at 2 minutes and 40 seconds after the hour.

END OF TAPE

SL-1 MC-73/1

Time: 2:00 p.m. CDT, 04:01:30 GET

5/18/73

PAO This is Skylab Mission Control on the hour. The spacecraft is beginning an ascending node over the South Pacific. It is now in range of the Honeysuckle tracking station. It's in the beginning of revolution number 59. The high point in the orbit is 236.8 nautical miles; low point in the orbit is 235.9 nautical miles. Present velocity is 25,102.5 feet per second. The revolutionary period, 1 hour 33 minutes 12.7 seconds. A detailed flight plan for the first day of a manned flight to rendezvous with the Skylab space station has been prepared for review by flight controllers. Based on a launch time of 8:02 a.m. central daylight time, the preliminary flight plan indicates that preparations for a standup EVA will be made following the completion of the dinner meal, at approximately 5:02 p.m. central daylight time. An estimated time for the standup EVA is 6:32 p.m. CDT in the middle of the 6th revolution. The standup EVA is expected to end approximately at the end of the 8th revolution at about 9 p.m. central daylight time. There will be a briefing at 5:15 with the present flight director, Don Puddy, in building 1 at Houston. That's 5:15 central daylight time. This is Mission Control at 1 minute and 30 seconds after the hour.

END OF TAPE

SL-1 MC-74/1

Time: 3:09 p.m. CDT, 04:02:39 GET

5/18/73

PAO This is Skylab Control at 2000 hours GMT plus 9 minutes, near the top of the hour. The unmanned space station at the present time is over the lower portion of Africa, out of contact of any stations. Acquisition of signal next will be attained in about 23 minutes. As was stated earlier, preliminary flight planning for the Skylab 2 mission will permit the crew to stay aboard the command service module for up to 5 days, if that is necessary. They will, during the daytime, enter the OWS, activate as they can, but plan to live in the command service module until orbital workshop temperatures are more comfortable and reach a more habitable level. The planning indicates that the crew can leave the CSM and live full time in the OWS if the more comfortable temperature levels can be reached. Now, comfortable levels in space mean relatively the same as comfortable levels here on Earth, within the 70 degree range Fahrenheit. If work conditions in the orbital workshop become too warm for the crew, then they periodically will return to the CSM and continue whatever required tasks they were doing at that particular time. We expect to have a status report from Skylab Program Manager, William Schneider, at approximately 3:30 p.m. central daylight time. And, for the information of those newsmen who may wish to ask questions, we are considering a 5:15 p.m. central daylight time change-of-shift briefing involving the off-going flight director, Don Puddy. That briefing will take place in the News Center briefing room at the Johnson Space Center, and we will carry question and answer capability from the Cape. At 20 hours 12 minutes and 40 seconds Zulu time, this is Skylab Control.

END OF TAPE

SL-1 MC-75/1
Time: 15:35 GDT, 4:03:03 GET
5/18/73

FAO This is Skylab Control at 20 hours 33 minutes Greenwich mean time with a Skylab status report. The flight of Skylab 1 continues and the systems operation is under the control of the ground team. Detail reports will continue to be made from the Johnson Space Center. Based on the latest orbital data, preparations for the launch of Skylab 2 are continuing for a T-0 time at 900 hours, 9 o'clock Eastern daylight time on Friday May 25. The stowage of the CSM will be delayed as long as possible to give the maximum time for fabrication of new EVA items. The stowage will be accomplished in the early morning hours of Thursday May 24. All stowage items will be at KSC by noon Tuesday and will be available for bench review by the flight crew. The stowage of the CSM includes resupply of items which may have been damaged by the high temperature. At least two kits to correct the thermal problem, tools for the repair, EVA garmets, and other equipment needed for a five day CSM mission. Off loaded items are mainly those associated with the solar scientific air lock which cannot be used when the sail is deployed. The development of the EVA hardware and techniques being considered for correction of the thermal problem is proceeding well. The standup EVA procedures and hardware from the CSM are proceeding at the Johnson Space Center with astronauts Charles Conrad, Dr. Joseph Kerwin, Paul Weitz practicing rendezvous fly around and station keeping. One G training of the EVA is on schedule. Astronauts Rusty Schweickart and Story Musgrave are testing the EVA equipment in the Marshall water emersion facility in Huntsville. Hardware is being built for both of these techniques and training equipment is planned for use by the prime crew on Saturday, here at the Johnson Center. Final evaluation and training for the prime crew for the prime flight crew, is scheduled for Monday and Tuesday at the Marshall water emersion facility. In addition, two alternate systems are being pursued which can be deployed through the scientific airlock therefore do not require EVA. One, an inflatable device much like a life raft is being examined at Marshall, while another with mechanical umbrella type mechanisms, is being pursued at the Johnson Center. Flight planning for the 28 day Skylab mission is being developed and involves a rendezvous, fly around inspection, and then a sequence involving safe deployment and docking or vice versa, if the other technique is used; followed by a relatively normal mission with prime emphasis on experiments and science. Final decisions will be made on Thursday at the Program Directors launch minus one day review at the

SL-1 MC-75/2

Time: 15:33 CDT 4:03:03 GET

5/18/73

Kennedy Space Center. At 20:00 hours 37 minutes GMT, this
is Skylab Control.

END OF TAPE

SL-1 MC-76/1

Time: 16:29 CDT, 4:03:58 GET
5/18/73

PAO This is Skylab Control, at 29 minutes after the hour. The Skylab space station at this time is over the Atlantic Ocean, in contact with the Canary Islands ground site. During its last stateside pass, the systems that were monitored by the flight controllers showed no significant change, indicating a stable vehicle at this time. Skylab space station is on revolution number 61, flying at an altitude of 238.6 miles at its high point, and 235.7 nautical miles at its low point. And its time required to orbit the Earth is 1 hour 33 minutes and 21 seconds. A reminder that at 5:15 p.m. central daylight time, we will have a change of shift briefing involving Don Puddy, who is the Flight Director for the crimson team. And appearing with him on the rostrum is George B. Hardie, or will be George B. Hardie, who bears the title of Chief of System Integration Branch, the Marshall Space Flight Center Skylab Program Office. We will have two-way question and answer capability between the Kennedy Space Center and the Johnson Space Center. At 31 minutes after the hour, this is Skylab Control.

END OF TAPE

SL-1 MC-77/1

Time: 09:00 CDT, 04:20:30 GET

5/19/73

PAO Skylab Mission Control on the hour. At the present time the orbital parameters are as follows: 25,116.3 feet per second is the velocity of the Skylab workshop. It's height is approximately 270 statute miles with a maximum height of 238.0 nautical miles, and a minimum height of 235.5 nautical miles. The period of revolution is 1 hour 33 minutes and 22.1 seconds. The program of venting and repressurization began yesterday afternoon to remove possible toxic gases from the atmosphere, has been temporarily interrupted. These gases may have been released by overheated materials on the front side of the workshop. Venting was terminated earlier this morning at a pressure of 2.3 pounds per square inch, approximately half the normal pressure of the workshop. The venting was terminated because of momentum buildup and lack of accurate data from tracking stations to determine whether or not momentum was going on. Venting is expected to begin again when momentum studies are completed. Change of shift briefings continue here in the Mission Control. Neal Hutchinson's team receiving briefing from the offgoing team of flight controllers and Charles Lewis. There will be a press conference including a medical specialist to discuss the problem of out-gassing in the workshop. This press conference will be held no earlier than 9:30 a.m. Central Daylight Time. Also in attendance at the press conference will be Flight Director Charles Lewis. This is Skylab Mission Control at 1 minute and 59 seconds after the hour.

END OF TAPE

SL-1 MC-78/1

Time: 11:00 CDT 04:22:30 GET

5/19/73

PAO This is Skylab Mission Control, at 5 seconds after the hour. At the present time the spacecraft is beginning its seventy-second revolution, traveling approximately 275 miles above the Earth with a low point at 271 statute miles above the Earth. In nautical miles, that's 238.8 nautical miles at it's high point and 235.5 nautical miles at its low point. The speed of the spacecraft is 25,090.8 feet per second or approximately 17,100 miles per hour. Its present period of revolution is 1 hour 33 minutes 10.2 seconds. America's first space station will complete 5 days in orbit in approximately 1-1/2 hours. At this time it is traveling along the same path it followed during the first revolution following launch, beginning a repeat of a pattern that occurs after every 71 revolutions. Approximately once every 5 days. The spacecraft is traveling now in a descending mode, over the eastern end of the Mediterranean Sea on revolution 72. A new stowage list of items to be stored aboard the command module after midnight next Thursday includes four special gas analyses tubes for measuring carbon monoxide, and six tubes for measuring TDI, a gas that could cause respiratory irritation in large quantities. The TDI gas which may exist in parts in quantities as large as two parts per million, is believed to have outgassed from insulation carried in the spacecraft. No certainty at this time can be determined in relation to this gas, but there are tests being made presently at the space center to determine what danger might occur from that. There will be six small tubes for measuring the gas concentration after the crew enters the workshop. This is Skylab Mission Control at 2 minutes and 8 seconds after the hour.

END OF TAPE

SL-1 MC-79/1

Time: 12:02 CDT, 04:23:31 GET

5/19/73

PAO This is Mission Control at 1 minute and 40 - This is Skylab Mission Control at 1 minute and 52 seconds after the hour. At the present time the spacecraft is traveling in the South Pacific on an ascending mode of revolution number 72, traveling toward Baja, California. Flight Director Neal Hutchinson indicates the flight planners will begin venting the orbital workshop again as soon as they come into range of the United States series of tracking stations. Beginning at approximately 12:06 Central daylight time, venting will proceed toward the presently set goal of 0.6 pounds per square inch of pressure in the orbital workshop. During the pass over the United States, careful watch will be kept on changes of attitude caused by releasing internal atmosphere from the spacecraft. During earlier venting it was necessary to halt the venting because of gases forcing a slight change in the yaw of the spacecraft. At that time there were insufficient tracking stations available to give data and this new venting will test whether or not that yaw is a problem. It is believed at the present time that they will be able to vent through to the 0.6 pound per square inch level with no difficulty. In any case they may interrupt this process without expending additional TACS gas, that's gas used in the thruster attitude control system, at anytime over the United States passes. They have acquisition of signal and just a little over 3 minutes in the United States. The venting is being performed to remove any undesirable odors or gases that make have come from overheated materials in the workshop. Flight controllers have no sensors to determine whether any undesirable gases may be present aboard the workshop. For this reason as a safety measure they are releasing all of the atmosphere with the exception of a small quantity into the area around the workshop. Before the workshop will be regularly inhabited, test will be made by the astronauts using small tubes that register gas concentrations. These tubes will be carried aboard the command module. We have acquisition of signal in 2 minutes and 18 seconds. This is Skylab Mission Control at 4 minutes and 20 seconds after the hour.

END OF TAPE

SL-1 MC-80/1

Time: 12:40 p.m. CDT, 05:00:11 GET

5/19/73

PAO This is Skylab Mission Control at 41 minutes and 3 seconds after the hour. The spacecraft at this time has lost signal over Madrid, and is now traveling south over the African Continent. We will not have acquisition of signal again for the next 32 minutes and 35 seconds, at which time we will pick up the signal at Carnarvon in Australia. At the present time they are continuing to vent the spacecraft. Venting began during the last United States pass. Orbital workshop pressures are dropping at approximately the rate of 0.3 of a pound per square inch each hour. That's 0.3 of a pound per square inch each hour. Guidance and Navigation reports that stable results are being received from data over the United States and over the Madrid tracking station. There will be no more data received until they reach the Australian tracking station in something over one half hour from now. Venting is expected to continue until a level of 0.6 pounds per square inch is obtained in the spacecraft. At the present time they are receiving readings of approximately 1.9 to 2.3 on the various sensors located in the orbital workshop. This is Skylab Mission Control at 42 minutes and 30 seconds after the hour.

END OF TAPE

SL-1 MC-81/1

Time: 13:00 CDT, 05:00:30 GET

5/19/73

PAO This is Skylab Mission Control on the hour. The spacecraft at the present time is nearing the end of the descending mode on its 73 revolution. It's traveling over the Indian Ocean, headed toward the Carnarvon tracking station in Australia. We have acquisition of signal at Carnarvon at approximately 13-1/2 minutes. The spacecraft continues to vent gases into the atmosphere as part of the procedure of cleaning out the interior. As far as we know, there has been no changes in the attitude. We have had no tracking since the Madrid station sometime ago. There is a period of more than a half an hour of loss of signal and during that time no data is received. As soon as we get to Carnarvon we will get readings again from the spacecraft. At the present time the orbit of the spacecraft has a high point at 238.1 nautical miles, and a low point at 235.3 nautical miles above the surface of the Earth. Its velocity is 25,091.4 feet per second as of the last tracking station. This is Skylab Mission Control at 1 minute and 14 seconds after the hour.

END OF TAPE

SL-1 MC-62/1

Time: 2:00 p.m. CDT, 5:01:30 GET

5/19/73

PAO This is Skylab Mission Control at 1 second after the hour. At the present time the spacecraft is beginning its 74 revolution passing off the coast of the Newfoundland area and North Atlantic and beginning a descending node. At the present time it is traveling at 25,090.3 feet per second. At the high point in its orbit, it reaches 238.8 nautical miles. At the low point in its orbit, 235.5 nautical miles. Atmospheric pressure aboard the orbital workshop has now dropped to approximately 1.9 pounds per square inch as venting continues. The regular momentum peak reached every revolution as the spacecraft circles the Earth was lower and well within limits during the stateside pass just completed. This indicates that the vents are no longer causing any problem with attitude. The atmosphere within the workshop is being purged, reducing the pressure to about 0.6 pounds per square inch, at a rate of approximately 0.3 pounds per square inch. This venting through two nonpropulsive vents, located on opposite sides of the aft skirt of the orbital workshop perpendicular to the orbital workshop solar array wings, appeared to affect attitude during venting last night. A slight yaw for flight controllers to suspend venting. Everything is now operating beautifully with temperatures balanced in the orbital workshop, and venting continues as planned. This is Skylab Mission Control at 1 minute and 47 seconds after the hour.

END OF TAPE

SL-1 MC-83/1

Time: 3:02 p.m. CDT, 05:02:32 GET
5/19/73

PAO This is Skylab Mission Control at 2 minutes and 2 seconds after the hour. The spacecraft is beginning its - half way through its 74th revolution, as it's passing towards the northeast on an ascending node, just having left the Honeyuckle station in Australia. It's passing over the South Pacific towards the Hawaiian tracking station. There will be acquisition of signal at Hawaii in approximately 6 minutes and 50 seconds. Flight controllers have observed a slight decline in the rate of venting from the Skylab orbital workshop. A chart, based on readings over the past 3 hours, indicates that atmospheric pressure in the workshop is now approximately 1.7 pounds per square inch, or 1/3 the fully pressurized level. At this new rate of venting, an estimated 4 hours will be required in addition to that time originally set aside to reduce the pressure to the presently selected level of 0.6 pounds per square inch. This variation, observed in the past revolution, is still under study. It is not expected, however, to present any difficulties other than a modest extension of the time period required for pumping out the atmosphere in the space station. The venting of the atmosphere is being performed to eliminate any undesirable odors or gases that may have accumulated as a result of excessive temperatures affecting materials in the workshop. No sensors are available aboard the workshop for determining what odors or gases may exist in the interior. The crew will carry color-coated tubes to indicate gas contents in the OWS. These will be carried aboard the command module, to be loaded aboard next Thursday morning, immediately after midnight, and they will deploy these inside the workshop once they have entered it. This is Skylab Mission Control at 3 minutes and - I'm sorry, at 4 minutes and 2 seconds after the hour.

END OF TAPE

SL-1 MC-84/1

Time: 4:05 p.m. CDT, 05:03:35 GET

5/19/73

PAO This is Skylab Mission Control at 6 minutes and 2 seconds after the hour. Skylab workshop is now in the beginning of its 75th revolution just off the Cape of Good Hope in Africa beginning it's - nearly at the end of its descending node. At the present time the spacecraft is traveling 25,091.7 feet per second. At the high point it reaches 238.1 nautical miles. And it's low point 235.3 nautical miles. During the past hour and 1/2 the only difficulty to have arisen here in Mission Control is due to a possible glitch in the hardware for a coolant loop. Flight controllers have begun working over computer data tapes in an attempt to discover why an automatic switchover shifted the orbital workshops refrigeration system to a backup coolant loop at sometime between loss of signal at Honeysuckle and acquisition of signal at Hawaii, between 2:54 and 3:10 p.m. central daylight time. Two complete cooling systems are provided in the orbital workshop to keep food freezers below zero degrees Fahrenheit, chilled drinking water, to provide storage for urine samples, to cool electronic instrument parts when they are in operation, and to operate the heat exchangers for air conditioning. These cooling systems, one primary cooling loop and a backup or secondary loop, are part of a subsystem, separate from cooling, provided to the Apollo telescope mount. Data from earlier test sites has just arrived at Mission Control for analysis. Flight Controller, Neil Hutchinson informs us that the problem is not considered serious at this time. A total of three identical pumps are provided in each cooling loop. In the event that a single pump has failed, either of the two remaining pumps is fully capable of handling the necessary load. Even should all three pumps fail in one line there remains an additional secondary line to take over the job. It is suspected, however, that the automatic switch itself may have operated on a spurious signal. Analysis will permit a correction to be made in this onboard computer system should this be the cause. This is Skylab Mission Control at 8 minutes and 35 seconds after the hour.

END OF TAPE

SL-1 MC-85/1

Time: 5:00 p.m. CDT, 05:04:30 GET

5/19/73

PAO This Skylab Mission Control at 2 seconds after the hour. The Skylab space station is presently just entering the United States tracking areas. It will have acquisition of signal at Goldstone in approximately 30 seconds. This is a Skylab status report. The mission of Skylab 1 continues in a stabilized manner, with temperatures and systems behaving normally. Detailed mission reports will continue to be issued from Johnson Space Center. Preparations for the launch of Skylab 2 continue at Kennedy Space Center for a launch at 9 a.m. eastern daylight time on Friday, May 25, 1973. Effort continues on the development of alternative thermal shields to provide solar protection for the workshop. Progress has been made in the conceptual designs of a thermal shield, deployable through the solar airlock in the workshop. Three concepts are now being pursued. An inflatable shield was tested successfully at Marshall Spaceflight Center in an 1-g environment yesterday. This device is nitrogen inflated, and would be deployed about 20 inches from the airlock. It is a 20 by 24 foot device, which when inflated, is much like a life raft, with pressurized booms at the extremes, and thermal materials stretched between. At Johnson Space Center, two umbrella-type devices are under test. One of which employs telescoping rods and the other uses spring actuated unfolding rods. All three devices can be deployed from a position internal to the workshop and do not require extravehicular activity. All three thermal shields use the T027 canister for deployment through the scientific airlock. Two extravehicular activity techniques, one deploying a sail from the Apollo telescope mount, and a sail from the CSM, are proceeding on schedule, with hardware being delivered as planned. The crew conducted hardware familiarization and pre- and post-EVA stowage exercises at the Johnson Space Center. These activities will prepare the crew for the neutral buoyancy simulator at Marshall Space Flight Center where they will be in training probably Monday and Tuesday, May 21 and 22. Mission timeline and procedures for the first four days of the mission are being developed now. An evaluation of experiment operations is continuing. Results to date have indicated most of the experiments scheduled for Skylab 2 can be conducted if the crew is successful in deploying the thermal shield. The level of experiment activity will largely be determined by power generation and power usage. The present estimates indicate that with command module fuel cells operative, there should be approximately 1000 watts of power available for experiments. This level of power would provide for a daily Apollo telescope mount and medical experiment operations and permit, in addition, some Earth resources and corollary experiment activity. At 7:30 this evening an example

SL-1 MC-85/2

Time: 5:00 p.m. CDT, 05:04:30 GMT
5/19/73

of deployment of the thermal shield, to be used in a standup EVA, will be made at hangar 135 at Ellington Air Force Base. That's at 7:30 this evening, hangar 135, Ellington Air Force Base, a deployment of a thermal shield, like a thermal sail. This thermal sail will be flown to Marshall Space Flight Center tomorrow morning, and is expected to be tested in a neutral buoyancy simulator either late Sunday or early Monday. Due to an unacceptable data dump at Bermuda, no analysis has yet been possible of the coolant loop switchover reported an hour ago. Data telemetered to Honeysuckle is now being received and evaluated at the Mission Control Center in Houston. No further difficulty has appeared in the coolant system, which has several backup pumps and a dual system to take the place of the primary. This is Skylab Mission Control, the final report of the day, at 4:05 after the hour.

END OF TAPE

SL-1 MC-86/1
Time: 09:00 a.m. CDT
5/20/73

PAO This is Skylab Control at 1400 hours G.m.t. The Skylab space station, at the present time, is in contact with the Carnarvon tracking site. Current flight trajectory parameters show us flying at a maximum height of 238.3 nautical miles by 235.3 nautical miles at the low point. And the time of orbit around Earth is 1 hour 33 minutes. The orbital workshop is currently in a stable position at a programed Z-local-vertical attitude of 47 degrees. Venting from the OWS was completed during the night, and telemetry indicates that the atmospheric pressure in the workshop is holding at 0.7 pounds per square inch. Flight controllers here at Houston plan to hold that pressure level. The airlock module coolant loop system yesterday was operating on primary and automatically switched to secondary coolant loop. That occurred at 16 hours 23 minutes G.m.t. It was commanded back on the automatic; and, at the next acquisition, the system again switched to secondary. We have been on secondary loop since then, and the flight controllers consider this not a serious problem. They are of the belief that we do not have pump anomalies, we do not have line problems, nor do we have loop problems, and are leaning toward the conclusion that perhaps it is a logic problem in the systems. In any event, no consumables have been adversely affected by this activity. At the present time, the flight controllers, under the direction of Neil Hutchinson, the silver team, are on duty and are discussing various actions to take during this day, this Sunday. Our next scheduled status report will be 11:00 a.m. central daylight time.

END OF TAPE

SL-1 MC-87/1
Time: 11:00 CDT
5/20/73

PAO This is Skylab Control at the Johnson Space Center, Houston, Texas, at 1600 hours Greenwich mean time. Skylab space station at this time is out of station contact with any of the ground stations, heading back toward the U.S. flying over the South Pacific Ocean. A check here in the flight control - among flight controllers indicates that the space station's temperatures, internal temperatures, are remaining stable in the 90 to 100, slightly over 100-degree range. As a typical example, one temperature sensor location in the wardroom ceiling registered 102.3 degrees at ceiling level, others registered lower than that. As of this time, the Skylab 2 backup crew of Rusty Schweickart, Story Musgrave, and Bruce McCandless are in the command module simulator in Houston. At 1:30 p.m., central daylight time, these crewmen will be briefed on standup EVA and on command module side hatch EVA operations. The prime crew, consisting of Charles Conrad and Dr. Joseph Kerwin, and Paul Weitz, have at this time no scheduled activity. Tomorrow, in the morning, Pete Conrad is tentatively scheduled to spend some time in the command module simulator, and part of his afternoon will be devoted to briefing. Monday evening, the two sets of crews will travel to the Marshall Space Flight Center at Huntsville, Alabama. Time for departure from JSC is yet to be determined. They are scheduled to spend 1 day, that would be Tuesday, in the neutral buoyancy simulator at the Marshall Space Flight Center. After their activities there, they will depart again in the p.m., at a time as yet not determined, for the Kennedy Space Center in Florida, and there, the crew will remain until their scheduled launch date with destiny, which is set for 8:00 a.m. central daylight time, 9:00 a.m. eastern daylight time. The next scheduled Skylab announcement from the Johnson Space Center will be 1300 hours, local or 1:00 p.m., central daylight time. At an elapsed time of 5 days 22 hours 34 minutes and 8 seconds in the flight of Skylab 1, this is Skylab Control.

END OF TAPE

SL-1 MC-88/1

Time: 1300 CDT, 6:00:30 GET

5/20/73

PAO This is Skylab Control at the Johnson Space Center in Houston, at six seconds after the top of the hour, 1800 hours Gmt. The space station is in contact with the Goldstone tracking station, the western part of the United States. And we'll be crossing the U.S. over the west coast, in the vicinity of the Los Angeles area. Very little new to report, other than there is to be a change of shift briefing at the Johnson Space Center later this afternoon. We're looking at approximately 5 p.m. central daylight time. The time will be more fully determined as the afternoon progresses. Participating will be Neil Nutchinson, who is Flight Director of the silver team, that is the team that is currently monitoring the flight of Skylab 1. Our next announcement over the PAO line will be at 3 p.m. central daylight time, 4 p.m. eastern daylight time. At one minute after the hour, one minute 45 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-1 MC-89/1

Time: 15:00 CDT 6:02:03 GET
5/20/73

PAO This is Skylab Control at the top of the hour. The flight of Skylab 1 continues in a controlled manner. Detailed reports will continue to be made periodically from the Johnson Space Center, here in Houston. Preparations for the launch of Skylab 2 continue at the Kennedy Center leading to a 9:00 a.m., eastern daylight time or 8:00 a.m., central daylight time, lift-off on May the 25th with a normal window of 10 minutes. Current plans consider the deployment of the thermal shield from the scientific airlock as the prime mode. Two designs are being continued in the development stage. At the Johnson Space Center, activities have concentrated on the development of a parasol using an automatic umbrella-like mechanism which is pushed out of the workshop using the T-27 equipment. At the Marshall Space Flight Center in Huntsville, work is continuing on an inflatable life-raft type also using T-27 equipment. Subsequent inflation would be accomplished using cabin atmosphere. The backup EVA mode which is showing the most promise is the one in which the sail is deployed from the ATM station. Hardware for this mode is being developed at Marshall. All training hardware for EVA has been delivered to Marshall. Flight hardware is on schedule for delivery to the Kennedy Space Center Wednesday. A tool selection has been made for potential use in deploying the solar array, in the event it appears possible, when the crew arrives at the workshop. And a final revue of the status will be held at the Kennedy Space Center on Thursday. And a GO or NO GO decision will be made at that time by Skylab Program Director William C. Schneider. At 20 hours 2 minutes 40 seconds Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC-90/1
Time: 1600 CDT, 6:03:30 GET
5/20/73

PAO This is Skylab Control, 4 p.m. central daylight time, 2100 hours G.m.t. The Skylab space station is currently about 4-1/2 minutes away from acquisition by the Hawaii tracking station, on revolution number 89. The orbital parameters of Skylab 1 are 230.8 nautical miles at the high point and 235.3 nautical miles at the low point, with the velocity at the present time, 25,090 feet per second. At the present time in the control center here in Houston, we're having a handover of flight control teams with the bronze flight control team, headed by Charles Lewis, relieving the team headed by Neil Hutchinson. At the last station, off going Flight Director Neil Hutchinson polled his flight controllers and, in general, got a response that their systems were looking good. The vehicle's attitude still appears to be stable, and the thermal parameters likewise remain stable. We are projecting a change-of-shift briefing with the off going Flight Director Neil Hutchinson and with George B. Hardy, Marshall's Skylab Director of Engineering and Integration, at the news center briefing room, Johnson Space Center, to start approximately 5 p.m. central daylight time. At 21 hours 2 minutes 32 seconds Zulu, this is Skylab Control.

END OF TAPE

SL-1 MC-91/1

Time: 08:00 a.m. CDT, 6:19:30 GET
5/21/73

PAO Good morning, this is Skylab Control emanating from the Johnson Space Center, Houston, Texas, at 8:00 a.m. central daylight time, May 21. The major activity at the Control Center here continues to be the management of the temperatures in the orbital workshop. This thermal management has been maintained by maneuvering the OWS in the Z-local vertical attitude from approximately 48 degrees to around 52 degrees. Airlock module coolant water loop has remained fairly stable in the range of 34.2 degrees Fahrenheit to 34.7 degrees. It's the desire of the flight controllers here to raise that temperature slightly and that's what they are working on at the present time. Tape recorder in the Apollo telescope mount temperatures of - temperatures in that area have decreased since we turned those tape recorders off yesterday. And the predictions are that those temperatures will stabilize in the 46 to 50 degree Fahrenheit range. There is on schedule an OWS purge cycle and the decision has been made for this purge cycle to use nitrogen. Two basic reasons for that nitrogen produces less carbon monoxide and by using nitrogen we conserve on the oxygen supply. We are expecting to have a change-of-shift briefing at the Johnson Space Center involving the off-going flight director Donald R. Puddy. That briefing should take place approximately 8:45 central daylight time, roughly 42 to 45 minutes from now. The Skylab space station at this time is over India at 13 hours 3 minutes 50 seconds Zulu. This is Skylab Control.

END OF TAPE

SL-1 MC-92/1

Time: 8:26 a.m. CDT, 06:19:56 GET
5/21/73

PAO This is Skylab Control with an advisory
for newsmen. The change-of-shift briefing which we had
advertised earlier as starting at 8:45 a.m. CDT now will
slip to 9:00 a.m. CDT. At 13 hours 26 minutes, this is Sky-
lab Control.

END OF TAPE

SL-1 MC-93/1

Time: 10:00 AM CDT, 6:21:29 GET
5/21/73

PAO This is Skylab Control; 1500 hours GMT. Skylab space station is in contact with the Carnarvon Tracking Site in Australia. On the 100th revolution. The orbital parameters at this time are 238.3 nautical miles at the high point, 235.2 nautical miles at the low point. The space station is traveling around Earth at 25 091 feet per second and it requires 1 hour and 33 minutes to make a revolution. The prime crew, consisting of Charles (Pete) Conrad, Dr. Joseph Kerwin, and Paul Weitz, this morning have been participating in pre- and post-standup EVA procedures using the command module simulator at the Johnson Space Center. This afternoon the prime crew will do a standup EVA walk-through and incidentally all these activities have been in the shirtsleeve environment. At the present time, the plan is for the prime crew to leave Ellington Air Force Base for the Marshall Space Flight Center this evening at 5:00 p.m. central daylight time. Meanwhile, in the Control Center here, the flight control team under the direction of Milton Windler have been walking a thermal tightrope so to speak managing temperatures in the orbital workshop, and generally speaking, the temperatures in the interior reach approximately 110 degrees. That has not significantly changed since we lasted talked with you. At 15 hours 3 minutes Zulu time, this is Skylab Control.

END OF TAPE

SL-1 MC-94/1

Time: 11:00 a.m. CDT, 06:22:29 GET
5/21/73

PAO This is Skylab Control at 11:00 a.m. central daylight time, top of the hour. The Skylab spacecraft has just completed a stateside pass, and at that time the flight controllers here at the Mission Control Center at the Johnson Space Center were monitoring the temperatures and momentum rates and reported very little new, indicating that the station was operating within the limits that had previously been discussed. We are currently approaching contact with the Madrid station and have approximately 20 minutes, or so, of orbital daylight time left as the spacecraft heads in a southeasterly direction across Europe and down over Africa. At 16 hours 1 minute G.m.t., this is Skylab Control.

END OF TAPE

SL-1 MC-95/1

Time: 12:00 a.m. CDT, 6:23:29 GRT
5/21/73

PAO This is Skylab Control at 1700 hours GMT. The space station is over the South Pacific at this time on the 101st rev. For the last hour we've had very little contact with the unmanned Skylab. We had a brief contact at the Honeysuckle station and at that time the telemetry data on attitude control thermal inputs, thermal management was no different than the last stateside pass. So essentially there have been no major changes from the last report. We will acquire the spacecraft at the Goldstone tracking station in California in approximately 14-1/2 minutes. At 1700 hours 1 minute and 35 seconds Zulu, this is Skylab Control.

END OF TAPE

SL-1 MC-96/1

Time: 1:00 PM CDT, 7:00:29 GET

5/21/73

PAO This is Skylab Control at 1:00 PM central daylight time. The space station currently is flying at the following orbital altitudes: 238.9 nautical miles at the high point, and 235.1 nautical miles at the low point. At the Mission Control Center, the flight controllers of course, are still engaged in temperature management which has been a key issue and will continue to be a key issue. Space station at the present time is traveling at 25 092 feet per second over the tip of Africa, southeast area, on revolution 102. At an elapsed time of 7 days 31 minutes this is Skylab Control.

END OF TAPE

SL-1 MC-97/1

Time: 2:00 p.m. CDT, 07:01:30 GET
5/21/73

PAO This is Skylab Mission Control at 1 second after the hour. At the present time, the spacecraft is traveling over the United States on an ascending node of revolution 102. At the present time it has a maximum altitude of 238.8 nautical miles; and a minimum of 235.0 nautical miles, as it travels approximately 270 statute miles above the Earth. Temperature management procedures are still being performed as flight controllers seek to bring the temperature at the inlet to the suit, water coolant loop, above 34 degrees, where it has remained for several hours. At the same time, they are attempting to keep workshop temperatures to a minimum. They have, during the past hour, been doing some attitude maneuvers and are now attempting to judge the success of those, as they are within range of the United States tracking stations. This is Skylab Mission Control at 55 seconds after the hour.

END OF TAPE

SL-1 MC-98/1

Time: 3:00 p.m. CDT, 7:02:30 GET

5/21/73

PAO This is Skylab Mission Control at 1 second after the hour. The spacecraft at the present time is coming into range of the tracking stations over Australia. They have done a slight pitch reduction to 41 degrees up-pitch now at the present time, and a slight roll correction to adjust for drift during the past hour. At the present time they are still reading 34 degrees of temperature at the coolant loop for the suits. And this new attitude is expected to have some effect on that temperature and are attempting, of course, to raise the temperature in the coolant loop to prevent freezing in the aluminum pipes. At the present time there appears to be no danger of this. The temperature is still above freezing point and they have marked a red line at 33.2 degrees for possible area of concern. There are plans underway and they expect to complete them in the next 4 to 6 hours to derive a new means of achieving thermal balance in the spacecraft. This attitude which is intended to raise the temperature in that suit coolant loop may also have the effect of raising temperatures in the orbital workshop several degrees. There is a change of shift briefing scheduled for 4:15 with flight director Milt Windler who will be off going at that time. At the present time the spacecraft is in its 103rd revolution on an ascending node returning toward the United States. It is traveling at a speed of 25 104.8 feet per second. That's 25 104.8 feet per second. Its high point in altitude is 239.1 nautical miles, with a low point at 235.1 nautical miles. This is Skylab Mission Control at 1 minute and 54 seconds after the hour.

END OF TAPE

SL-1 MC-99/1

Time: 1600 CDT, 7:03:30 GET
5/21/73

PAO This is Skylab Mission Control at 1 second after the hour. The space station is now traveling on a descending node of the 104th revolution, just at the beginning of it's 104th revolution, traveling in the south Atlantic just about to cross the equator. At the present time, it's attitude is pitched up 39 degrees with a 10 degree off, and no roll. Attitude is being determined at this time by temperature and electrical power data. This data is derived from both external surface temperatures on the workshop and also from the electrical power output of the Apollo telescope mount solar array system. Biomedical personnel have set a limit of 24 hours for continued operation at elevated temperatures in the food storage area. Temperatures were elevated early this morning at about 6 a.m., central daylight time, when the space station was rolled 51 degrees clockwise to achieve temperature balance elsewhere in the orbital workshop. At the present time, temperatures are - continue to read above 120 degrees Farenheit in the food storage areas, that's off-scale high. Our temperature sensors read no higher than 120 degrees in that area, and flight controllers are preparing plans now to bring temperatures back within safe limits for film and food storage before 6 a.m., central daylight time, tomorrow morning. Biomedical personnel indicated that 24 hours at elevated temperatures would not do additional damage to any food in the workshop. This is Skylab Mission Control at 1 minute and 43 seconds after the hour.

END OF TAPE

SL-1 MC-100

Time: 16:11 CDT 7:03:40 GET
5/21/73

PAO This is Skylab Mission Control at
10 minutes and 15 seconds after the hour. The flight
director informs me that he should be available for
a change of shift briefing in approximately 10 minutes.
That's our 4:15 briefing - possibly will be rescheduled
for about 4:20 to 4:25. This is Skylab Mission Control
at 10 minutes and 32 seconds after the hour.

END OF TAPE

SL-1 MC-101/1
Time: 1623 CDT, 7:03:53 GET
5/21/73

PAO This is Skylab Mission Control at 23 minutes and 2 seconds after the hour. Flight Director Milton Windler has left the Mission Control Center after turning control to Charles Lewis. He's expected to be at a change-of-shift briefing within 5 minutes. Coming with Mr. Windler will be his EGIL, that's EGIL, Craig Staresinich. The EGIL is the Skylab Workshop Electrical General Instrumentation and Flight Support Systems Engineer. The EGIL is Craig Staresinich. Mr. Windler and Mr. Staresinich are on their way now to building 1 for the press conference at Johnson Space Center. This is Skylab Mission Control at 23 minutes and 54 seconds after the hour.

END OF TAPE

SL-1 MC-102/1

Time: 1800 CDT, 7:05:30 GET
5/21/73

PAO

This is Skylab Mission Control at 33 seconds after the hour. At the present time the spacecraft is in it's 105th revolution, passing out of range of tracking stations in the southern part of the Indian Ocean, beginning an ascending node at approximately 60 degrees east latitude. It's period at this time is 1 hour 33 minutes and 9.2 seconds. It's traveling at the speed of 25,093.9 feet per second, approximately 100 miles an hour. The maximum point in it's altitude 239.2 nautical miles with a minimum of 235.0 nautical miles. At the last tracking site, internal pressure in the orbital workshop is reading about 1 pound per square inch of nitrogen as the process of depressurizing and repressurizing is temporarily interrupted. Of the 25 temperature sensors displayed on the Skylab workshop atmospheric temperature display at Mission Control, 10 continue to read off-scale high, with the remainder ranging from 55.9 degrees in the multiple docking adapter, to 115.2 degrees on the ceiling of the experimental compartment in the orbital workshop. The temperature sensor at the inlet to the suit coolant loop continues unchanged at 34 degrees Fahrenheit, as it has throughout the day. Further attitude maneuvers to provide appropriate thermal control are presently under discussion both at Mission Control and with planning teams at the Marshall Space Flight Center. This is Skylab Mission Control at 2 minutes and 20 seconds after the hour.

END OF TAPE

SL-1 MC-103/1

Time: 1900 CDT, 7:06:30 GET
5/21/73

PAO This is Skylab Mission Control at 2 seconds after the hour. At the present time the space station is traveling over the Gulf of Mexico, nearly at the end of it's 105th revolution. The period of revolution is 1 hour 33 minutes 19.2 seconds, it's maximum height 239.2 nautical miles, minimum height 235.0 nautical miles, velocity 25,090.8 feet per second. Temperatures in the food storage area are expected to remain above the level desired for long-term storage during the overnight period. During the previous days the temperature in the food lockers hovered between 105 and 110 degrees, well within safe limits. Temperature sensors in this area read a maximum of 120 degrees and presently register off-scale high, or above 120 degrees. A graph of temperatures made at Marshall Space Flight Center indicates that food temperatures may now be estimated at about 127 degrees. Biomedical personnel have set limits of 24 hours for operation at these higher temperatures. Attitude corrections for temperature which must be balanced against attitude requirements for solar power, attitude requirements for proper heating of the airlock module and coolant for suit umbilical systems, and attitude adjustments necessary to keep control moment gyros functioning at the optimum standards and with minimal consumption of thruster attitude control system gas are presently being determined at Mission Control in Houston. There are no additional problems since early this morning. We continue to monitor all systems. This is Skylab Mission Control at 1 minute and 57 seconds after the hour.

END OF TAPE

SL-1 MC-104/1

Time: 8:00 AM CDT, 7:19:30 GET
5/22/73

PAO Good morning, this is Skylab Control from the Johnson Space Center, Houston, Texas, at 8:00 AM central daylight time, May 22nd. The unmanned Skylab 1 space station is currently over the South Pacific on the 113th revolution. Major flight activity at the control center continues to be the thermal management of the unmanned workshop. The following temperatures were computed earlier today and representative of the temperatures that are onboard the vehicle. Temperature around the film vault was plus 119 degrees Fahrenheit. Floor temperature at the food locker, as an example, is plus 121 degrees. Mean gas temperature, we have an indication is plus 121 degrees Fahrenheit. Airlock module environmental control system coolant loop is holding at the familiar 34.2 degrees Fahrenheit. Over the Honeyuckle Site a few moments back, the flight controllers here pitched the unmanned Skylab back to a 45-degree attitude; a normal thermal management attitude is what they call it. And it is their intention to maintain this attitude for several hours. In summary, the unmanned Skylab 1 appears stable. The temperatures appear manageable and the flight controllers here in the backroom and at the Marshall Space Flight Center are watchful. At 3 minutes and 15 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-1 MC-105/1

Time: 8:30 a.m. CDT, 07:20:00 CET

5/22/73

PAO This is Skylab Control at 30 minutes after the hour. An advisory to the newsmen that at 10:00 a.m. central daylight time, we'll have a briefing - a press conference with John H. Disher, Deputy Director of Skylab Program Office, from NASA headquarters. The press conference will take place at the Johnson Space Center in the News Center briefing room, with the capability for questions from the Kennedy Space Center. At 13 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC-106/1

Time: 09:00 a.m. CDT, 07:20:30 GET

5/22/73

PAO This is Skylab Control on the hour. The Skylab space station is in the 114th revolution flying at the following orbital parameters, 239 nautical miles at the high point and 234.9 nautical miles at the low point of its orbits around Earth. Traveling at a speed of 25,092 feet per second which takes it 1 minute - or 1 hour and 33 minutes to travel around Earth. At the present time the unmanned Skylab 1 is out over the Indian Ocean. Earlier there had been a maneuver to change the attitude of the space station and one of the indicators which resulted - temperature indicators which resulted from that maneuver was that the coolant in the airlock module environmental control system - that coolant rose slightly in temperature to a level of 34.7 degrees Fahrenheit. A reminder again at 10 o'clock central daylight time there will be a press conference at the Johnson Space Center involving John H. Disher, Deputy Director of the Skylab Program Office from NASA Headquarters. At 7 days, 20 hours 32 minutes elapsed time since the launch of unmanned Skylab 1, this is Skylab Control.

END OF TAPE

-1 MC-107/1
Time: 09:30 a.m. CDT, 7:21:00 GET
5/22/73

PAO This is Skylab Control with a short announcement for the Press at 9:30 central daylight time. In 30 minutes from now at the Johnson Space Center or at 10:00 a.m. central daylight time, we will have a Press Conference with John H. Disher, Deputy Director, Skylab Program Office, from NASA Headquarters. Capability for questions and answers between MS - JSC, correction JSC and KSC will be implemented. This is Skylab Control.

END OF TAPE

SL-1 MC-108/1

Time: 11:30 a.m. CDT, 07:23:00 GET

5/22/73

PAO This is Skylab Control at 16 hours 30 minutes Greenwich mean time. The space station at the - at this moment is roughly 3 minutes away from acquisition by the Goldstone site, located in California. During the last pass over the Honeysuckle tracking station, the flight controllers made a slight roll and a slight yaw correction in the spacecraft to adjust for a drift anomaly. There has been a continuing orbital workshop pressurization and purge cycle that's underway at the present time. We have pressurized the OWS to an indicated 2 pounds per square inch. And it is our plan to start venting when the space station reaches the Madrid tracking site - start venting and purging the Saturn workshop system. Temperatures have remained essentially the same, in the same level as they were earlier indicated. The vehicle is in a stable attitude. And at 16 hours 32 minutes and 27 seconds G.m.t., this is Skylab Control.

END OF TAPE

SL-1 MC-110/1

Time: 12:38 CDT, 08:00:06 GET
5/22/73

PAO This is Skylab News Center at KSC.
The countdown for the launch of Skylab 2 is scheduled to begin at 5:00 a.m. tomorrow. Plans to pick up the countdown at 8:30 p.m. tonight were modified to conserve flight batteries, which will be installed when the countdown begins. The launch is scheduled for 9:00 a.m. EDT on Friday, May 25. The National Weather Service Space Flight Meteorology Group said this morning that weather conditions will be satisfactory for the launch of Skylab 2 on Friday. In the Cape area, skies will be clear to partly cloudy, visibility will be about 8 miles, winds will be southeast - excuse me, southwest at about 10 miles per hour and the temperature about 78 degrees. That concludes our report.

END OF TAPE

SL-1 MC-111/2

Time: 1:00 p.m. CDT, 08:00:30 GET
5/22/73

PAO This is Skylab Control at 1800 hours Greenwich mean time. The Skylab space station is approximately 2 minutes away from acquisition of signal by the Hawaiian tracking site. During the last several passes, we have been monitoring - the flight controllers have been monitoring space station systems and have nothing new, really, to report, with reference to anomalies, other than what we have previously discussed. An advisory to those newsmen who are covering this from Houston: There will be an opportunity for the Houston press to observe the fabrication, the rigging, and packing of the SEVA sail at the Johnson Space Center - that was put together at the Johnson Space Center. They can do that this afternoon by meeting a PAO escort in building number 1, that's the News Center, the JSC News Center, at about 1:45 p.m. CDT. The escort will take them over to the building where this activity is taking place, and there will be a technical expert on hand to explain the procedure in the packing and rigging exercise. At 18 hours 2 minutes 12 seconds Zulu time, this is Skylab Control.

END OF TAPE

SL-1 MC-112/1

Time: 02:00 p.m. CDT, 8:01:30 GET
5/22/73

PAO This is Skylab Mission Control at 19 hours Greenwich mean time. At the present time, the suit temperature and the coolant loops has been successfully solved, apparently. We have temperatures reading 34.9 and, on occasion, the sensor reads 35.2, fluctuating between 34.9 and 35.2. This is about 2/10 of a degree above the upper - above the lower limit set by the flight directors last night. So that we now feel that problem is well in hand. At the same time, we're trying to maintain thermal management in the remainder of the spacecraft. At this time the spacecraft is on its 117th revolution at the lower end of the descending node, passing over the Indian Ocean. This is Skylab Mission Control at 45 seconds after the hour.

END OF TAPE

SL-1 MC-113/1

Time: 3:00 p.m. CDT, 08:02:30 GET
5/22/73

PAO At 20 hours GMT this is Skylab Mission Control. At the present time the space station is maneuvering north of the Great Lakes on its 117 revolution. Temperature levels in the food storage cabinets remain steady at 123 degrees F while film vaults are now 124 degrees F. Attitude maneuvers to lower temperatures in the workshop are underway. However, biomedical personnel have agreed that these higher temperatures, while undesirable, do not present a serious problem to food storage. Food temperatures had previously been set at an upper limit of 130 degrees for periods up to 10 days. These temperatures are, however, rather high in view of the long term and it would be desirable to bring them down. There may be some effect on food palatability, according to the biomedical personnel on staff now. There are no further problems. Attitude control continues to be controlled here by the Guidance and Navigation Officer. We have made some maneuvers in an attempt to bring those temperatures to lower levels. The temperature in the suit coolant loop continues at 34.9 degrees, which is well within safe limits. The spacecraft is just now beginning its 118th revolution at 20 hours 1 minute and 24 seconds Greenwich mean time. This is Skylab Mission Control.

END OF TAPE

SL-1 MC-114/1

Time: 03:17 p.m. CDT, 08:02:46 GET

5/22/73

PAO This is Skylab Mission Control at 20 hours 16 minutes and 36 seconds Greenwich mean time. At the present time, Milt Windler is completing his shift. This should go off at 4:00 p.m. He says he will be available for a press conference at about 4:30 p.m. central daylight time in building 1 at Johnson Space Center. This is Skylab Mission Control at 20 hours 16 minutes and 55 seconds Greenwich mean time.

END OF TAPE

SL-1 MC-115/1
Time: 16:00 CDT 8:03:30 GET
5/22/73

PAO This is Skylab Mission Control at 21 hours Greenwich mean time. At the present time, the spacecraft is on its 118th revolution above the Earth, traveling north on an ascending node over Australia just having passed out of reach of the Carnarvon tracking station. We will have acquisition of signal next at Guam. At the present time, the spacecraft is traveling 25118.3 feet per second with a maximum elevation of 239.4 nautical miles, a minimum elevation of 234.7 nautical miles. And at this time, its period of revolution is 1 hour 33 minutes 21.2 seconds. Temperature in the coolant loop that feeds the suit umbilical system has now reached 35.2 degrees with occasional fluctuations at 34.9. These are, I should point out, temperature fluctuations, fluctuations in the sensor rather than actual changes. This is well above the safe level specified in planning meetings last night when temperatures were hovering at about 34 degrees, and a goal of 34.7 was set. As I pointed out, presently the temperature is about 35.2. This gives an adequate safety limit to reduce dangers from freezing in the water filled coolant line. Flight Director Milton Windler has recommended a further 5 degree pitchup, and a 5 degree roll clockwise to bring - correction, a 5 degree counterclockwise roll to bring the space station to a full 50 degree pitchup, and thus lower temperatures in the orbital workshop where film and food are stored. This plan is now being revued with thermal experts here and at Marshall Space Flight Center. A press conference with Flight Director Windler and a representative of the Life Sciences Directorate at Johnson Space Center will take place when Mission Control change of shift is completed, about 4:30 central daylight time. Charles Lewis is now in the center being briefed by Mr. Windler and he will take over as flight director as soon as the briefing is completed. This is Skylab Mission Control at 21 hours 2 minutes and 23 seconds Greenwich mean time.

END OF TAPE

SL-1 MC-116/1

Time: 1611 CDT, 8:03:35 GET

5/22/73

PAO This is Skylab Mission Control at 21 hours
5 minutes and 5 seconds Greenwich mean time. Flight Director
Milton Windler has informed us that he may be about 15 minutes
later than originally intended. That's at 4:45 central day-
light time for the press conference in building 1. This is
Skylab Mission Control.

END OF TAPE

SL-1 MC-117/1

T'ime: 16:45 CDT, 8:04:15 GET

5/22/73

PAO This is Skylab Mission Control at 21 hours 45 minutes and 27 seconds Greenwich mean time. Flight Director Milton Windler is still occupied with a problem of attitude control to maintain temperature stability and there's no knowledge right now of how long he's going to be engaged in this discussion. There are some disagreements between here and Huntsville as to what attitude it should be maintained in the next few revolutions, so we will come up about 5 minutes before Mr. Windler will appear at the press conference and give you an announcement of his leaving the Mission Control Center. At this time we have no further announcement. We expect, maybe, 15 minutes before any press conference can begin. This is Skylab Mission Control.

END OF TAPE

SL-1 MC-118/1

Time: 17:00 CDT 8:04:30 GET

5/22/73

PAO This is Skylab Mission Control at 22 hours 3 seconds Greenwich mean time. Milton Windler has just stood up at the console, but he does not appear at this time ready to leave for Building 1 for the press conference. There is a continuing discussion of attitude control and proper attitude control to both balance the temperatures in the food compartment and bring them down, preferably. Temperatures earlier were reading at 124 degrees Fahrenheit and there is an intention to bring this down to 120 or slightly below for reasons of preventing any damage to the food, but not only that to also to prevent changes in the taste of the food. There is some concern that it may be less palatable if the temperatures are maintained above 120. And since they want to bring that temperature down, and at the same time keep the temperatures higher in the suit umbilical system coolant loop, they are trying to decide which attitude maneuver would be the appropriate one to make. And this discussion has been going on now for some time. They are now in a night time part of the pass, so the attitude maneuver would not be made for the next half hour approximately. They have 28 minutes left of night time pass. They're on 119th revolution, the descending node, passing in the South Atlantic Anomaly off of Brazil. And they will be back in the daylight once they reach the area of Australia. This is Skylab Mission Control at 22 hours 1 minute 27 seconds Greenwich mean time.

END OF TAPE

SL-1 MC-119/1

Time: 17:11 CDT, 8:04:40 GET
5/22/73

PAO This is Skylab Mission Control at 22 hours
10 minutes 3 seconds Greenwich mean time. Flight Director
Milton Windler has left Mission Control and is on his way to
building 1 for a press conference. He should be there within
5 minutes. That's all of the announcement for now, this is
Skylab Mission Control at 22:10:18 Greenwich mean time.

END OF TAPE

SL-1 MC-120/1

Time: 19:00 CDT 8:06:30 GET

5/22/73

PAO This is Skylab Control at 0 hours Greenwich mean time. Temperatures in the orbital workshop remain above the 120 degree level specified earlier for complete protection of photographic film and food in directives to the flight control team. At the present time, 12 of the 25 atmospheric gas temperature transducers in the space station read off scale high or above 120 degrees Fahrenheit. The remaining temperatures range from 57 degrees, 57.6 degrees, Fahrenheit in the multiple docking adaptor to 118.6 degrees on the experimental compartment ceiling. Flight Director Charles Lewis has asked medical science personnel to provide the latest available information on temperature maximums for use in further attitude planning. There is at this time no concern about high temperatures, but they would like more definite information before making attitude corrections. We will come up again when we have a final status report from Huntsville. This is Skylab Control at 1 minute and 9 seconds after the hour.

END OF TAPE

SL-1 10-121/1

Time: 19:25 CDT 8:06:45 GET

5/22/73

PAO This is Skylab Control at 15 minutes after 0 hour Greenwich mean time. I have a report today from Marshall Space Flight Center. Skylab astronauts early this morning conducted an exercise at the Marshall Space Flight Center in which they deployed both the Johnson Space Center standup EVA shield-sunshade and the Marshall Space Flight Center twin-pull sunshade in 1-g simulation. Later in the Marshall neutral buoyancy simulator, the prime crew went through the routine of deployment of the twin-pull sunshade. It was a most successful exercise and they uncovered no difficulty. Later in the day, a standup EVA exercise was conducted in the neutral buoyancy simulator using some of the tools which will be carried aboard Skylab 2 for the purpose of clearing debris from the Skylab workshop if necessary. Skylab Mission Director William C. Schneider, at Marshall, said "There is still a lot of work to be done between now and Friday. However, everything we are doing is on schedule. We are very pleased with results of the crew training today at Marshall. And it has given us confidence that we are go for our Friday launch. From the thermal stand point, unless there is some condition of which we are not aware, we feel that we can deploy a sunshield on Skylab 1 and have a good mission." This is a statement from Marshall Space Flight Center and a quote from William C. Schneider, Skylab Program Director. This is Skylab Control at 16 minutes and 46 seconds after the hour.

END OF TAPE

SL-1 MC-122/1

Time: 19:25 CDT, 8:06:54 GET

5/27/73

PAO This is Skylab Control at 24 minutes and 24 seconds after zero hour Greenwich mean time. I'd like to repeat for those of you who did not get it the first time, the Marshall Space Flight Center statement on today's activities. This will be the final Skylab Control announcement for the day. Skylab astronauts, early this morning, conducted an exercise at the Marshall Space Flight Center, in which they deployed both the Johnson Space Center standup EVA shield sunshade and the Marshall Space Center twin-pole sunshade, in 1-g simulations. Later, in the Marshall neutral buoyancy simulator, the prime crew went through the routine deployment of the twin-pole sunshade. It was a most successful exercise and they encountered no difficulties. Later in the day, a standup EVA exercise was conducted in the neutral buoyancy simulator, using some of the tools which will be carried aboard Skylab 2, for the purpose of clearing debris from the Skylab workshop if necessary. Skylab Program Director William C. Schneider at Marshall said, "There is still a lot of work to be done between now and Friday, however everything we are doing is on schedule. We are very pleased with the results of the crew training today at Marshall, and it has given us confidence that we are GO for our Friday launch. From the thermal standpoint, unless there is some condition of which we are not aware, we feel that we can deploy a sunshield on Skylab 1 and have a good mission." That's the end of quote from William C. Schneider at Marshall. The crew has arrived at 8:01 eastern daylight time at Kennedy Space Center, and they are now on their way to the crew quarters - that's 8:01 arrival time at Kennedy Space Center for the Skylab 2 crew, and they are on their way to crew quarters at Kennedy. This is Skylab Control signing off at 26 minutes and 32 seconds after zero hour Greenwich mean time.

END OF TAPE

8-1 MC-123/1

Time: 08:00 a.m. CDT, 08:19:30 GMT
5/23/73

PAO Good morning. This is Skylab Control at 1300 hours Greenwich mean time, 8 a.m. central daylight time, May 23rd. The unmanned Skylab space station is presently in touch with the Madrid tracking site, traveling across Europe on the 128th revolution. Since our last reporting period, there appear to be no major changes in the Skylab space station, and the major activity or the central activity still continues to be thermal management. Average temperature measurements in the interior of the orbital workshop are approximately 123.5 to .9 degrees, a slight elevation in the patient during the last 24 hours. These temperatures have been computed from numerous sensors located on the OWS structure and, as I said, are an average. On the other side of the coin, temperatures in the area of the wall food locker have decreased approximately 1 degree. Skylab space station is flying, at this time, in the following attitude: wings level, in plane, and pitched up 47 degrees. The airlock module suit umbilical system, which had been giving us some attention over the past two or three days, is running approximately 35 degrees, 34.9, or slightly 7 to 8/10 of a degree above what we reported yesterday. This brings smiles to the faces of the flight controllers. At 13 hours 2 minutes 58 seconds Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC-124/1

Time: 08:30 a.m. CDT, 08:20:00 GET

5/23/73

PAO This is Skylab Control at 13 hours 30 minutes Greenwich mean time, with an announcement that there will be a change-of-shift briefing at the Johnson Space Center News Center briefing room. That briefing is scheduled to begin at 9:30 a.m. central daylight time; 10:30 a.m. eastern daylight time. Participating will be Neil B. Hutchinson, the off-going flight director, and George B. Hardy, who is head of the Engineering, Development, and Integration Office, Skylab Program Office, out of the Marshall Space Flight Center. We'll have the capability of taking questions from the Kennedy Space Center. At 13 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC-125/1

Time: 09:00 a.m. CDT, 8:20:30 GET

5/23/73

PAO This is Skylab Control at 1400 hours GMT, with an advisory that we will have a change-of-shift briefing at 9:30 a.m. central daylight time with Neil B. Hutchinson, the offgoing flight director and George B. Hardy, who is head of the Engineering Development and Integration Office from the Marshall Space Flight Center, participating. We have also added a third participant, who is Don Arabian, Chief of the Test Division at JSC. And Mr. Arabian will be on hand to discuss the so-called parasol thermal shield, that device that is under construction at the Johnson Space Center. At 14 hours 1 minute, this is Skylab Control.

END OF TAPE

MC-126/1

Time: 09:25 a.m. CDT, 08:20:55 GET
5/23/73

PAO May we have your attention please. This is Kennedy Space Center, Skylab News Center. The countdown for the launch of Skylab 2 scheduled for 9 a.m. eastern daylight time on Friday began on schedule at 5:30 a.m. eastern daylight time today. After installation of flight batteries in the Saturn-IB second stage and instrument unit, batteries will be powered up and a series of tests of flight control radio frequency and telemetry systems will be initiated. Loading of liquid hydrogen and liquid oxygen in the command service module is scheduled for later today. The National Weather Service Spaceflight Meteorology Group said this morning that satisfactory weather is expected for the launch of Skylab 2 on Friday morning although there is a strong likelihood of afternoon and evening thundershowers on Thursday. Countdown activity should not be greatly affected and such thunderstorms would dissipate during the night. On Friday morning scattered clouds are expected in the launch area with visibility of about 8 miles, southwest winds 10 miles per hour and temperature about 78 degrees. Near normal conditions are expected over the usually cloudy North Atlantic which should be of no particular concern to the launch. Skylab 2 crewmembers Charles Conrad, Joseph Kerwin and Paul Weitz arrived at Kennedy Space Center late yesterday. This morning they are undergoing their F minus 2 medical examinations and this afternoon they are scheduled for a bench review of items to be stowed in the command module and the stowage briefing. The tools to be used by the crew in work on the solar array and the twin pole solar shield that would be deployed from the command module by Joseph Kerwin during a standup EVA are scheduled to arrive at Kennedy Space Center about 12:30 p.m. eastern daylight time today. The tools were developed by the Johnson Space Center and the Marshall Space Flight Center and the twin pole solar shield by the Marshall Space Flight Center. The parasol solar shield - that will be deployed by Paul Weitz from the workshop scientific airlock - is scheduled to arrive at Kennedy Space Center later today. The parasol was developed by Johnson Space Center. That concludes our report.

END OF TAPE

SL-1 MC-127/1

Time: 10:52 a.m. CDT, 8:22:22 GET
5/23/73

PAO This is the Skylab News Center at KSC. The Skylab 2 crew today completed the 0 minus 2-day physical exams, and NASA doctors reported all is well with Commander Charles "Pete" Conrad, Science Pilot Joseph Kerwin, and Pilot Paul Weitz. Dr. Royce Hawkins, the Deputy Director for Medical Operations at Johnson Space Center, said, following the crew's 2-hour physical, that and I quote, "There are no problems, everything is normal, and all data and medical examinations look good." "They are in high spirits." The crew is scheduled to take part in a review of command module stowage items later today in the bonded stowage area of the manned spacecraft operations building at Kennedy Space Center. That completes our report.

END OF TAPE

SL-1 MC-128/1

Time: 11:00 a.m. CDT, 8:22:30 GET
5/23/73

PAQ This is Skylab Control at 1600 hours GMT.
During the end of the 129th revolution, the orbital parameters
of the unmanned space station are 238.9 nautical miles at
the high point times by 234.4 nautical miles at the low
point. Space station is traveling at 25,121 feet per second
over the central USA, at this time. At 16 hours, 1 minute
GMT, this is Skylab Control.

END OF TAPE

SL-1 MC-129/1

Time: 1:00 p.m. CDT, 09:00:30 GET
5/23/73

PAO This is Skylab Control at 1800 hours
Greenwich mean time. Skylab space station is on the 131st
revolution over the continent of Africa at this time. The
key issue as far as the flight controllers are concerned
at Johnson Space Center still remains thermal management on
the Skylab 1. At 18 hours 1 minute Gmt this is Skylab
Control.

END OF TAPE

SL-1 MC-130/1

Time: 02:00 p.m. CDT, 9:01:30 GET

5/23/73

PAO This is Skylab Control at 19 hours and 2 seconds Greenwich mean time. At the present time the Skylab workshop is on its 131st revolution in range of the Hawaiian Tracking Station, just north of Hawaii, traveling on an ascending node over the north Pacific. At this time, the temperature in the suit umbilical system coolant loops is 34.7 degrees, which is exactly on the mark set a day and half ago by flight controllers for maintaining temperature above the freezing point of water. This 34.7 does give them about a 3-degree temperature advantage over that freezing point. At this time, TACS gas consumables remain at 71.4 percent, well above experiment redline and well within the range of flight predictions; 71.4 percent of thruster attitude control system gas remains. Gas pressure indicators in the orbital workshop indicate that there is, at the present time, about 1.2 pounds per square inch of pure nitrogen. There is no oxygen during this purging cycle that the crew has been going through. Of twenty-five atmospheric-gas temperature sensors in the Skylab space station, 12 continue to read off-scale high, with temperatures ranging from 63 degrees in the multiple docking adapter to 119.5 degrees on the ceiling of the experimental compartment. Twelve of those sensors, as I pointed out, are reading off-scale high, that is, in excess of 120 degrees Fahrenheit. This is Skylab Control at 19 hours 1 minute and 43 seconds Greenwich mean time.

END OF TAPE

SL-1 MC-131/1

Time: 3:00 p.m. CDT, 09:02:30 GET

5/23/73

PAO This is Skylab Control at 20 hours and 2 seconds Greenwich mean time. At this time, Flight Director Milton Windler has asked for a thermal evaluation of a proposed pitchup maneuver to 50 degrees, so that careful control can be maintained over low temperatures in the suit umbilical system coolant loop. This loop, which is still reading approximately 34.7 degrees Fahrenheit, feeds the opening to the water line in the suit umbilical system and consists of aluminum tubing, containing water. At the same time, temperatures have risen slightly in film and food storage areas in the orbital workshop. Food temperatures are now estimated at approximately 128 degrees, with film temperatures at about 126 degrees. These figures are estimated by using on-scale temperature transducers in the orbital workshop, and these are extrapolations. No sensors are able to read above 120 degrees in the workshop area. At the present time, they are considering doing some sort of an orbital attitude change, probably within the next 15 minutes, shortly after we get acquisition of signal at Australian tracking stations. At the present time, the Skylab is at the bottom of the descending node on revolution 132. It's in the Indian Ocean, about to begin its ascension to the northeast, and it is into the night-side of the earth, 13 minutes and 30 seconds remaining before it comes into daylight again. This is Skylab Control, Houston, at 20 hours 1 minute and 44 seconds.

END OF TAPE

SL-1 MC-132/1

Time: 16:10 CDT, 9:03:40 GET

5/23/73

PAO This is Skylab Control at 21 hours 10 minutes and 2 seconds Greenwich mean time. At the present time the spacecraft is on its 133rd revolution above the Earth on the descending node, passing off the tip of Australia, just about to be acquired by the Ascension tracking station. On revolution 133, its period of orbit is 1 - period of revolution is 1 hour 33 minutes 22.7 seconds. It has a maximum elevation of 239.6 nautical miles - a minimum elevation of 234.6 nautical miles. Its velocity at the present time is 25,089.8 feet per second or approximately 17,100 miles per hour. Flight Director Milton Windler has scheduled a major attitude change in an attempt to bring temperatures in the space station habitation area to lower levels. At the present time a pitchup of an additional 18 degrees from 47 degrees, the present attitude, to a new attitude of 55 degrees pitched up into the Sun, is planned to begin just before sunrise on revolution number 133, the revolution we are presently in. This will be commanded from the Australian tracking station at Carnarvon at about 21 hours 43 minutes Greenwich mean time or 4:43 p.m. central daylight time. Sunrise in this revolution occurs at 21 hours 48 minutes 25 seconds Greenwich mean time or 4:48 central daylight time. In addition to cooling off the orbital workshop area where film storage has reached an estimated 126 degrees Fahrenheit and food storage areas are at 128 degrees Fahrenheit, this maneuver may help to bring up temperatures in the suit umbilical system coolant loop. Temperature in the coolant loop is presently reading 34.7 degrees Fahrenheit slightly under 3 degrees above the freezing point. A similar maneuver performed at an 80 degree pitchup during orbit 112 had been preceded by a revolution at solar inertial attitude, and no well-based thermal data was provided from that period of time. The maroon team of flight controllers, including the Electrical General Instrumentation and Life Support Systems Engineer, the EGIL, EGIL, the Guidance and Navigation Systems Engineer, the ATM Digital Computer Software Control Officer and the Flight Director, all of whom are directly concerned with this attitude maneuver, are remaining on duty during this maneuver. Charles Lewis' team of flight controllers have however taken their positions following an official change of shift. The new 65 degree pitchup attitude will be held for two revolutions in the present plan, then the space station will be maneuvered to a 45 degree pitchup for five revolutions to recharge the 18 batteries attached to the Apollo Telescope Mount solar array system. Following this five revolution recharge the Skylab will be returned to a 50 degree pitch up provided thermal characteristics are within desired limits. A Change-of-shift briefing with Flight Director Milton Windler and one other participant is expected to begin following this attitude maneuver. At this time we're estimating about 5:15 p.m. central daylight time for the Change-of-shift briefing. This is Skylab Mission Control Houston at 21 hours 13 minutes and 52 seconds Greenwich mean time.

END OF TAPE

SL-1 MC133/1

Time: 16:16 CDT 09:03:45 GET
5/23/73

PAO The countdown for the launch of Skylab 2 at 9:00 a.m. eastern daylight time on Friday began this morning at 5:30 a.m. and is proceeding on schedule. Flight batteries were installed in the booster, second stage, and instrument unit of the Saturn 1-B. And the launch vehicle at Complex 39, Pad B, was powered up for a series of flight control radio frequency and telemetry systems tests. Loading of liquid oxygen and liquid hydrogen for the spacecraft fuel cells is now in progress and should be completed late this evening. Spacecraft stowage of flight equipment is to get underway early Thursday morning. This equipment includes tools to be used by the crew, if deployment of the orbital workshop solar arrays appears feasible, and the solar shield devices designed to lower the workshop's temperature. Completion of these tasks should be accomplished during the late morning hours. Stowage of flight items and mechanical buildup of the spacecraft is to begin shortly after 1:00 a.m. Thursday. Weather conditions on Friday continue to appear favorable for launch at 9:00 a.m. There's a probability of afternoon and evening thundershowers on Thursday, but countdown activities should not be greatly affected. The showers are expected to dissipate during the night. On Friday morning, scattered clouds are expected in the launch area with visibility about 8 miles, southwest winds at 10 miles per hour, and a temperature of approximately 78 degrees. That completes our report.

END OF TAPE

SL-1 MC-134/1

Time: 16:47 CDT 09:04:17 GET

5/23/73

PAO This is Skylab Control at 21 hours 47 minutes and 3 seconds Greenwich mean time. The maneuver discussed earlier, a two-axis maneuver including a pitchup to 65 degrees, was begun at 46 minutes and 40 seconds after the hour. This two-axis maneuver also includes a slight 3 degree counterclockwise roll to correct for drift. So, they are now in the process of commanding a pitchup to 65 degrees. They expect this to take approximately 12 minutes. At this time the spacecraft is about 50 seconds from reaching the sunrise point in its orbit. It's within range of the Carnarvon tracking station, and on an ascending node of the 133rd revolution. This is Skylab Mission Control, Houston at 21 hours 47 minutes 50 seconds, Greenwich mean time.

END OF TAPE

SL-1 MC-135/1
Time: 17:11 CDT, 9:04:35 GET
5/23/73

PAO This is Skylab Control at 22 hours 5 minutes 3 seconds Greenwich mean time. Flight Director Milton Windler has left the control center. Tracking data received at Guam indicated that the attitude maneuver had been successfully accomplished and he left - he is picking up George Hardy of Marshall Space Flight Center - they should be available in the news center at building 1 at Johnson Space Center within the next 2 or 3 minutes. That means that that press conference may be beginning about 5 minutes early. This is Skylab Mission Control Houston at 5 minutes and 33 seconds after the hour.

END OF TAPE

SL-1 MC-136/1

Time: 18:00 CDT, 09:05:30 GET

5/23/73

PAO This is Skylab Control at 23 hours 1 second Greenwich mean time. The present time cabin pressure is about 0.7 pounds per square inch of nitrogen, as we depressurize for the third time to a 0.6 pounds per square inch level. Following this final cycle of nitrogen - following this a final cycle of nitrogen repressurization and depressurization to approximately 0.1 or 0.2 pounds per square inch level will be performed. At that time we will repressurize with oxygen and nitrogen and prepare for the crew. Thruster attitude control gas remaining is 71.2 percent of the total supply ... when we first launched. This is 0.8 percent below the desired Flight Plan level, but it provides a surplus of 29.6 percent above the amount necessary for all operations and experiments over an 8-month period. Of the 25 atmospheric gas temperature transducers in the space station, 12 continue to read off-scale high, or above 120 degrees Fahrenheit. Remaining temperatures vary from 60.8 degrees Fahrenheit in the Multiple Docking Adapter to 119.5 degrees Fahrenheit on the ceiling of the experimental compartment in the Orbital workshop. Some reduction in habitation temperatures is expected to begin during the night. At the present time the suit coolant loop inlet temperature is remaining stable at 34.7 degrees Fahrenheit. This is as of the last tracking station, Merritt Island, Florida. At this time we are out of range of tracking stations for approximately 1 hour, as the spacecraft is nearing the end of its descending point in the 134th revolution. It is 23 hours 1 minute and 58 seconds Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-1 MC-137/1

Time: 19:05 CDT, 9:06:35 GET

5/23/73

PAO This is Skylab Control at 0 hours 5 minutes and 3 seconds Greenwich mean time. At the present time, temperatures are coming down in the Skylab workshop area. The Skylab is in a daylight pass now. Data, for the first time in a little over an hour and a half, as we are receiving data from Goldstone tracking station, and the Goldstone data indicates that temperatures have dropped from 1/2 to 1 degree. The temperature now in the multiple docking adapter is indicating 59.8 at one transducer. This compares to a 60.8 temperature an hour - a little over an hour ago. And temperature at the highest point on-scale is: the experimental compartment ceiling has come down from 119.5 to 119.0. So, these are the first indications we're getting that temperatures are starting to come down. There is a considerable temperature lag so that we may have continued reductions in temperature along this line during the rest of the night. This is the second daylight pass at the 65 degree pitched up attitude. At this pass, when it's completed, we will return to an attitude of approximately 45 to 48 degrees pitched up where we can recharge our batteries that are - the batteries that are attached to the Apollo Telescope mount solar array system. We have had no change in temperature on the suit umbilical system coolant loop. The temperature there remains 34.7, so far. This may go up in temperature in the next few hours and we are looking for some slight increase in temperature there to prevent any possibility of freezing. The nitrogen purge cycle continues. We're reduced now to approximately 0.8 pounds per square inch of nitrogen. This is down from 0.9 of the previous report and that purge cycle is expected to run to 0.6 pounds per square inch, at which time we will repressurize 2 pounds per square inch of nitrogen and then again begin another purge cycle down nearly to 0.1 or 0.2 pounds per square inch. That's nearly an empty space vehicle, and then we will repressurize with nitrogen and oxygen. All other systems seem to be operating properly. We are now preparing to do another attitude maneuver following this daylight pass. We have 13 minutes and 17 seconds of daylight left on this pass. This is Skylab Control. We will have a further report when we have some sort of a status report from Marshall. This is Skylab Control at 7 minutes and 32 seconds after the hour.

END OF TAPE

SL-1 MC-138/1

Time: 20:00 CDT, 9:07:30 GET
5/23/73

PAO This is Skylab Control at 1 hour and 2 seconds G.m.t. At the present time the spacecraft is beginning an ascending node of the 135th revolution, passing in the daylight over the Indian Ocean. At this time it has a period of 1 hour 33 minutes 22.3 seconds for - revolution above the Earth. High point in its altitude, 239.5 nautical miles, low point, 234.3 nautical miles. At this time its velocity is 25,122.6 feet per second - that's approximately 17,100 miles per hour. There has been no tracking data for some time now. We've been out of range of station since leaving Vanguard sometime ago. There will not be an acquisition of signal again for another 39 minutes, at which time we'll receive data from Goldstone tracking station in California. At 12 minutes and 11 seconds after 0 hour of Greenwich mean time or at 7:12:11 p.m. central daylight time - that's 12 minutes and 11 seconds after 7 p.m. daylight - central daylight time. Repressurization of the cabin was begun using nitrogen. That was an end of the depressed cycle and we are now in a repress cycle again. We'll repressurize to 2 pounds per square inch and then once again be pressurized to about 0.1 or 0.2 pounds per square inch before the final pressurization using both oxygen and nitrogen. There have been no difficulties here. We have not had very much data because of the lack of tracking stations over the past 2 hours, but temperatures did at that time indicate they were coming down. We're still awaiting a release from Marshall - final day's status report and we'll stay on the air for that sometime later this evening. This is Skylab Control at 1 minute and 60 seconds after the hour.

END OF TAPE

SL-1 MC-139/1

Time: 21:00 CDT, 9:08:30 GET

5/23/73

PAO This is Skylab Control at 2 hours Greenwich mean time. At the present time, the spacecraft continues at a new attitude after being corrected during this last pass. It's about to have acquisition of signal at the Vanguard tracking station aboard a ship in the Atlantic Ocean. We are, at the present time, in our nighttime part of our pass just having entered that as we're just about to begin the 136th revolution. At the present time, we have a high point in our altitude of 239.2 nautical miles, a low point of 234.7 nautical miles. Velocity continues relatively the same, 25,085.2 feet per second. Approximately 17,100 miles per hour. Temperature scale at Goldstone, which was our last tracking station, indicated that food temperatures have now come down approximately 2 degrees. We're reading food temperatures now based on two thermal scales using the determination of food temperatures of approximately 125.7 to 126.5. Earlier, we had estimates of approximately 128 degrees for food temperatures. Film temperatures have also come down approximately a degree and one half. We now have a reading of 124.6 for food temperatures. These temperatures are, of course, estimates based on the off-scale temperature readings we have available from the workshop. At this time, we're still waiting for an update of report of today's activities and upcoming events from Marshall Space Flight Center. We're appraised that that has now come to Johnson Space Center and we're waiting for it here at Mission Control, and as soon as that comes in, we'll read it. That should be within a very short period of time. This is Skylab Control at 1 minute and 52 seconds after the hour.

END OF TAPE

SL-1 MC-140/1

Time: 21:15 CDT, 9:08:45 GET
5/23/73

PAO This is Skylab Control at 2 hours and 15 minutes Greenwich mean time. This is a status report from Marshall Space Flight Center. A design certification review was held today at Marshall Space Flight Center to review in detail the status of the Skylab workshop. This review also included a review of the readiness of various thermal shields, the operational plans for the revised Skylab mission, and crew readiness for launch of SL-2. In addition to the Senior Skylab Management from NASA headquarters, Marshall Space Flight Center, Johnson Space Center, and Kennedy Space Center, the review was attended by the Deputy Administrator of NASA, Dr. George Low, the Associate Administrator for Manned Spaceflight, Dale Myers, the directors of the three manned flight centers, Dr. Rocco Petrone, Dr. Christopher C. Craft, and Dr. Kurt Davis, and the Chairman of the Aerospace Safety Advisory Panel, General Harold Dunn. Representatives also from McDonnell Douglas Corporation, Martin Marietta Denver, and Rockwell International Corporation participated. These discussions covered the status of the in-orbit Skylab 1 and an assessment of the conditions the crew will encounter. Limited data is available for determining the detailed condition of the outside of the workshop. But the thermal sensors and the telemetry indicators leave little doubt that the thermal shield is almost completely gone except for perhaps minor debris, rods, and wire. As far as the solar panel booms are concerned - the condition which seems most consistent with our sensors and the telemetry data is that boom number 2 is no longer attached to the workshop and that boom number 1 is deployed only about 5 to 10 degrees, at which position it appears to be restrained. Several of the more promising schemes for deploying a thermal shield by the Skylab 2 crew were reviewed in detail. The design, testing, and qualities of each shield were covered as well as the assessment of the crew's ability to get them in place. Those examined were the SEVA sail, the twin-pole thermal shield, the parasol, and two types of inflatable shields. The thermal electrical conditions which were a result from using each of these devices was also discussed. Each effectively protects the Skylab from solar heat. Further reviews covered the mission changes to the rendezvous, docking, and initial entry into Skylab, as well as the crew preparation for these critical events. After hearing all of the detailed technical discussions, it was concluded that while all of the thermal shields could be deployed safely, and each would do the job intended, space limitations in the command module forced a selection of three devices. The primary mode of deploying the thermal shield will be the Skylab parasol from a position internal to the workshop. In the event this cannot be accomplished, the crew will fix the twin-pole thermal shield to the spacecraft

SL-1 MC-140/2

Time: 21:15 CDT, 9:08:45 CET
5/23/73

during extravehicular activity from the vicinity of the Apollo telescope mount. In addition, space has been found in the command module for the standup EVA sail, which will be carried as a third alternative. Some effort will continue on one of the inflatable shields which is interchangeable with the Skylab parasol, in the event some unforeseen problem delays the parasol significantly. These options were judged to provide maximum crew safety and the highest probability of success based on crew training, systems testing, and design analysis. William C. Schneider, NASA Director of the Skylab program, said, "It was a difficult choice since all designs were good and so much excellent work had been done."

It was also decided that a limited attempt may be made by the crew to deploy the presumably partially deployed solar array after a real-time assessment and analysis has been made by the astronauts and NASA ground personnel. The review confirmed the launch date of May 25, 1973, at 9 a.m. eastern daylight time, although much work still remains to be accomplished. Confidence was expressed in the deployment of the shield and the subsequent 28-day Skylab mission. Also, it is expected that there is a relatively low probability that the solar array system booms will be in a condition such that they can be deployed by the flight crews. In the event the crew cannot deploy the booms, photographs will be taken to see if a technique for deployment can be devised for subsequent crew visits. This is Skylab Control at 2 hours 19 minutes and 50 seconds Greenwich mean time.

END OF TAPE

SL-1 MC141/1

Time: 08:00 a.m. CDT, 9:19:30 GET

5/24/73

PAO Good morning, this is Skylab Control at 1300 hours Greenwich mean time, 8:00 a.m. central daylight time, May 24. Skylab space station at this time is in contact with the Honeysuckle tracking site. Since our last reporting period the average temperatures internally have remained fairly stable at the 126 degree level, that's Fahrenheit. The attitude of the spacecraft at this time is wings level flying in plane pitched up 47 degrees. An attitude which the flight controllers at the Johnson Space Center, where the mission is presently under control, feel is the best attitude for thermal management of the orbital workshop. In addition to thermal management, there has been an active effort over the past 24 hours to maintain OWS depressurization in venting for outgassing management. In a word Skylab space station is in approximately the same condition that it was when we last reported to you on May 23. At 13 hours 2 minutes and 33 seconds Zulu time, this is Skylab Control.

END OF TAPE

SL-1 MC-142/1

Time: 10:10 a.m. CDT, 09:21:40 GET

5/24/73

PAO This is Skylab Control; 1500 hours 10 minutes Greenwich mean time, nearing the end of the 143rd revolution. Skylab space station is crossing the tip of Baja, California, at this time, with orbital parameters of 239.4 nautical miles by 234.3 nautical miles. The spacecraft is traveling at a speed of 25,089 feet per second, and at this speed it takes 1 hour 33 minutes and 13 seconds to complete a revolution. The spacecraft is under control of the Texas station and the flight controllers here report that all of the thermal parameters have not changed significantly, and that spacecraft attitude is the same as previously mentioned. At 15 hours 12 minutes Zulu time, this is Skylab Control.

END OF TAPE

SL-1 MC-143/1

Time: 11:00 a.m. CDT, 09:22:30 GET

5/24/73

PAO This is Skylab Control at 1600 hours
Greenwich mean time. During the past hour we had a relatively
quiet pass over the continental United States. The Skylab
space station at this time is out over the eastern - southeastern
tip of Africa. We're approximately 15 minutes from acquisition
of signal again, and at that time, it will be the Honeysuckle
station that will acquire the spacecraft. At 16 hours 1 minute
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC144/1

Time: 11:16 a.m. CDT, 09:22:46 GMT

5/24/73

PAO This is Skylab Control at 16 hours 16 minutes Greenwich mean time with an announcement that there is to be a pre-mission press conference starting at 1:00 p.m. central daylight time. The press conference will emanate from KSC, the Kennedy Space Center, and from the Johnson Space Center jointly. The principal participant at the Kennedy Space Center will be Mr. William Schneider, Skylab Program Director, from NASA Headquarters. And at the Johnson Space Center, Mr. Kenneth Kleinknecht, Skylab Program Director at JSC, and Glynn Lunney, who is the manager of Apollo Spacecraft Program. A question and answer capability between the Kennedy Center and Johnson Center will be available for those press. At 16 hours 18 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC-145/1

Time: 12:00 Noon CDT, 09:24:30 GDT

5/24/73

PAO This is Skylab Control at 1700 hours Greenwich mean time. Skylab space station this time is over the New England states starting revolution 145. Within the past hour the Eastern Test Range clock has been activated at Mission Control Center and is counting down. At this time the clock reads 18 hours 29 minutes and 14 seconds, excluding programmed or builtin holds, from the lift-off of Skylab 2. There will be a premission press conference starting at 1 p.m. central daylight time emanating from the Kennedy Space Center and from the Johnson Space Center. Main participants include William Schneider, Skylab Program Director from NASA Washington who will head the group at the Cape and at the Johnson Space Center, Mr. Kenneth Kleinknecht who is the Skylab Program Director here at JSC will head the group of participants. That press conference is scheduled to start at 1 p.m. central daylight time with the capability for questions and answers two ways. At 17 hours 2 minutes this is Skylab Control.

END OF TAPE

SL-1 MC-146/1

Time: 15:01 p.m. CDT, 10:02:31 CET

5/24/73

PAO This is Skylab Control at 20 hours 1 minute 3 seconds Greenwich mean time. Flight Director Donald Puddy is preparing to begin a repetition of attitude maneuvers performed yesterday to adjust temperatures in the two areas of prime concern, the orbital workshop habitation area and the coolant loop inlet that feeds the suit umbilical system. This attitude maneuver sequence, now dubbed the sus habitation area reset maneuver, shifts the space station from its electrical power thermal baseline at 50 degrees pitched up, to a 68 degrees pitch up for two revolutions, down to 45 degrees for 5 revolutions and increase electrical power and then return to baseline at 50 degrees. In this case flight controllers may choose to stay at 45 degree pitchup to provide full electrical power without decreasing temperatures in the suit umbilical coolant loop. The coolant loop which can be heated by maneuvers at high pitch angles, 65 degrees to 70 degrees pitchup, cools below desired levels during long periods at 50 degrees. It may also be warmed by pitch angles below 50 degrees. During the past night, temperatures in the suit umbilical system coolant loop dropped from 34.9 degrees Fahrenheit to 34.7 degrees, the suggested line, over a 14 hour period. Then 34.5 degrees in the following 14 hours. It has just reached 34.2 degrees in the past hour in the suit umbilical coolant loop. In advance of this suit umbilical system habitation reset maneuver which is expected to take place in about 2 hours, the spacecraft is being pitched down to 45 degrees to increase electrical power levels in the 18 batteries feed by the Apollo telescope mount solar array. This maneuver is now being commanded over U.S. tracking stations. The spacecraft is now in range of the Goldstone tracking station. There is a press conference, Change of Shift Briefing, scheduled for approximately 5 o'clock with Donald Puddy, the offgoing flight director. This is Skylab Control at 3 minutes and 20 seconds after the hour.

END OF TAPE

SL-1 MC-147/1

Time: 16:00 CDT 10:03:30 GET

5/24/73

PAO This is Skylab Control at 21 hours Greenwich mean time. At the present time the spacecraft is on revolution 147, beginning its ascending node, just about to approach Australia. We have been informed by the Guidance and Navigation Systems Officer of the location of the orbital workshop, tomorrow at launch time. At the time of launch, 13 hours Greenwich mean time the spacecraft will be located 16 degrees, 38 minutes, 12 seconds, north and 67 degrees, 13 minutes, 44 seconds, west. To repeat that is 16 degrees, 38 minutes, 12 seconds, north and 67 degrees, 13 minutes, 44 seconds, west. That will place the spacecraft approximately 300 miles east of Philadelphia over the Atlantic Ocean. This is at the time of launch, 13 hours Greenwich mean time tomorrow. At the present time the Flight Director is Milton Windler, having just taken over from Don Puddy, who is remaining on duty in preparation for a major attitude maneuver over Vanguard tracking station. The Vanguard station is aboard a ship in the Atlantic Ocean and that will not take place for some time yet, so that Don Puddy expects to remain on duty until some time after 5:00 central daylight time. There will be a press conference held immediately after that, shortly after 5:00 central daylight time. This is Skylab Control at 1 minute and 38 seconds after the hour.

END OF TAPE

SL-1 MC-148/1

Time: 16:10 CDT 10:03:39 GET

5/24/73

PAO This is Skylab launch control. Preparations at launch complex 39 are underway right now to move the mobile service structure from Pad B to its park site. Mobile service structure affords access to the space vehicle, and also gives environmental protection to the spacecraft during the pad checkout period. It's moved to its park site prior to loading liquid oxygen and liquid hydrogen. Those are the cryogenic fuels for the first and second stage of the Saturn 1-B. (garble) Cryogenic fueling has been moved ahead in the countdown. It's now scheduled to begin about 2:30 p.m. That's eastern daylight time. If all goes well, the fueling should be finished about 12:30. And closeout crew will enter the pad and complete stowage. All tasks, at this time, in the count are going well and it's expected at this time the cryogenic loading will begin on schedule.

END OF TAPE

SL-II MC-149

Time: 16:36 CDT 10:04:05 GMT

5/24/73

PAO This is a statement from William Schneider, Skylab Program Manager. "As a result of further technical discussions and analysis, we have concluded to continue preparations for the Skylab 2 mission with the Skylab parasol as the prime means of providing the thermal shield. The twin parasol shield will continue as the alternate and we will carry the SEVA sail as a third possibility. However, present tests indicate that there could be some physical deterioration of the parasol material. Our current planning is to jettison that device if it becomes necessary during the mission and subsequently deploy the twin pole shield prior to the end of the 28 day first mission. Testing of the parasol material will continue, and afford us real time indication on the ground of the the inflight status. In addition, we will continue to monitor the onboard instruments which monitor the external conditions of the shield in order to assist our real time decision." That concludes the statement.

END OF TAPE

SL-II MC-150/1

Time: 17:00 CDT 10:04:30 GET
5/24/73

PAO This is Skylab Control at 22 hours Greenwich mean time. At the present time there are still considerations being undertaken here in Mission Control with Flight Director Milton Windler on possible changes in attitude to correct temperature deviations in that SUS loop. The suit umbilical system coolant loop is now recording 34.0 degrees Fahrenheit, that's a drop of 0.2 of a degree over the last 4 hours. There is some concern that this temperature is now down to an area that was previously identified as a blue line, or a low point that they wanted to try and stay above. They were setting an optimum level at the time of 34.7. So, with this temperature decrease they have been undertaking attitude maneuvers to bring about an increase in that temperature and there should be some changes made in the next 2 hours that will bring that temperature back up again. Don Puddy, the offgoing Flight Director is still in Mission Control and we will announce his departure when he leaves the Mission Control for a change of shift briefing, approximately in the next 15 minutes. This is Skylab Control Houston at 1 minute and 5 seconds, after the hour.

END OF TAPE

SL-IIMC-151/1

Time: 17:15 CDT 22:15:00 GET
5/24/73

PAO This is Skylab Control at 22 hours
15 minutes and 4 seconds Greenwich mean time. Offgoing
Flight Director Donald Puddy has left Mission Control
and is on his way now to a briefing at - in the small
briefing room in Building 1 at Johnson Space Center. He
should be there within 5 minutes. This is Skylab Control
at 15 minutes and 22 seconds after the hour.

END OF TAPE

SL-I MC-152/1

Time: 18:06 CDT 144:23:07 GET
5/24/73

PAO This is the Skylab News Center. The countdown for launch of Skylab 2 continues at the Kennedy Space Center's launch complex 39. The count now stands at T minus 9 hours 23 minutes and counting. The move of the mobile service structure from pad B back ... began at 6:26 p.m. eastern daylight time. Move of the mobile service structure was delayed approximately 54 minutes by thunderstorm activity in the pad area. The mobile launcher at the pad sustained one and perhaps two lightning strokes. But early indications are that the Skylab 2 space vehicle sustained no damage. Both the launch vehicle and spacecraft will be retested extensively during the evening. At this time there appears to be no impact upon an on-time launch at 9:00 a.m. eastern daylight time on Friday morning. Preparations are to get underway at 7:30 p.m. to load liquid oxygen aboard the S1B booster and liquid oxygen and liquid hydrogen aboard the S4B second stage later this evening. This is the Skylab News Center.

END OF TAPE

SL-1 MC-153/1

Time: 19:00 CDT 145:00:00 GET
5/24/73

PAO

This is Skylab Control at 0 hours GMT. The Skylab space station is now in its 149 revolution, midway through the night time part of its orbit above the Earth. The spacecraft will continue a 68 degree pitched up attitude for one additional daylight pass ending at Vanguard. Then at about 1:19 Greenwich mean time or 8:19 p.m. central daylight time, commands will be sent to return the spacecraft to a lower pitch, 45 degrees up, so that batteries can be recharged by the Apollo telescope mount solar cells. The pitched up attitude is already brought some temperatures down in the workshop area where film and food are stored. Floor level food storage areas are now estimated to be at 125 degrees, while wall areas are estimated at 127.5 degrees. Of the 25 atmospheric gas temperature transducers recorded on Mission Control Displays, 12 continue to read off-scale high or above 120 degrees. Other readings vary from 55.9 in the multiple docking adaptor to 116.6 on the experimental compartment ceiling. The suit umbilical system coolant loop aluminum tubing filled with water is still recording 34.0 degrees Fahrenheit. A temperature increase is expected during the coming night as a result of the SUS habitation area reset attitude maneuver now under way. A fluctuation in the output of charger battery regulator module number 17, that's CBRM number 17, which indicated an electrical output of about one-half the normal level then accelerated to more than normal output has now stopped. This charger battery regulator module is now producing at a normal level, and is expected to cause no further problems. This is Skylab Control at 2 minutes after the hour.

END OF TAPE

SL-1 MC-154/1
Time: 19:14 CDT
5/24/73

PAO This is the Skylab News Center. The countdown for launch of Skylab 2 continues at launch complex 39 at the Kennedy Space Center. The count now stands at T minus 8 hours 31 minutes. The Control Tower at the Cape Kennedy skid strip has confirmed the touchdown of a T-38 bringing the SEVA sail from the Johnson Space Center, in Houston, Texas at 7:55 - 8:00 p.m. eastern daylight time. That time again is 7:58 p.m. eastern daylight time. At complex 39 pad B has been cleared in preparation for loading liquid oxygen aboard the S1B booster and liquid oxygen and liquid hydrogen aboard the S4B second stage beginning at 9:45 p.m. A closer evaluation of the lightning activity at pad B at 5:24 p.m. indicates that the mobile service structure and not the mobile launcher was hit by a lightning stroke. Retest of both the spacecraft and launch vehicle is proceeding and indications are that the Skylab 2 space vehicle sustained no damage. Retesting is to continue during the evening. At this time there appears to be no impact upon an on-time launch at 9:00 a.m. eastern daylight time Friday morning. A Lear jet with the Skylab parasol aboard has left the Johnson Space Center en route here and has an estimated time of arrival of 9:00 p.m. eastern daylight time. This is the Skylab News Center.

END OF TAPE

SL-1 MC-155/1

Time: 20:22 CDT 145:01:21 GET
5/24/73

PAO This is the Skylab News Center, count-
down for the launch of Skylab 2 continues at the Kennedy
Space Center launch complex 39. The preparation for load-
ing of cryogenic propellants aboard the Saturn 1-B is scheduled
to begin at 9:45 p.m. eastern daylight time. The count is
now at T minus 7 hours 23 minutes and counting. The Skylab
parasol arrived at the ... airport aboard a Lear jet
from the Johnson Space Center in Houston, Texas, at 8:30 p.m.
It has been taken to the Kennedy Space Center in preparation
for stowage aboard the spacecraft. The SEVA sail arrived
at the Cape Kennedy skid strip at 7:58 p.m. aboard a T-38
jet. It too, is at the space center awaiting spacecraft
stowage. A retest of the space vehicle following a lightning
stroke on the mobile service structure at 5:24 p. m. eastern
daylight time is nearing completion. Test data shows no
damage to either the launch vehicle or the spacecraft. At
this time, preparations are proceeding for launch of
Skylab 2 at 9:00 a. m. eastern daylight time on Friday
morning. This is Skylab news center.

END OF TAPE

SL-1 MC-156/1

Time: 21:09 CDT 145:02:08 GET

5/24/73

PAO This is the Skylab News Center. The countdown for the launch of Skylab 2 at 9:00 a.m. eastern daylight time Friday, continues at the Kennedy Space Center. We are now at T minus 9 hours 36 minutes and counting. Complex 39 pad B has been cleared and loading of cryogenic propellants aboard the Saturn 1B launch vehicle is now in progress. This procedure calls for loading liquid oxygen first aboard the S1B booster and then aboard the S4B second stage. At the conclusion of LOX loading, liquid hydrogen will be tanked aboard the second stage. The SZVA sail and Skylab parasol have been received from the Johnson Space Center in Houston, Texas and the stowage aboard the spacecraft should begin at approximately 1:30 a.m. Friday morning at the conclusion of cryogenic loading. Weather conditions continue to appear favorable for launch on Friday morning. The early evening thunderstorms over north and central Florida should dissipate during the night. At launch time tomorrow we should have fair to partly cloudy skies with southwest winds around 10 miles per hour. Visibility should be about 8 miles. Temperature should be near 78 degrees. Weather over the northern Atlantic beneath Skylab 2's orbital pass is not of any particular concern. This is the Skylab News Center.

END OF TAPE

SL-1 MC-157/1
Time: 22:05 CDT 145:03:04
5/24/73

PAO This is the Skylab News Center. The
countdown for the launch of Skylab 2 at 9:00 a. m. eastern
daylight time Friday, continues on time at Kennedy Space
Center. The loading of cryogenics continues, and is
expected to be completed at 1:00 a. m. Stowage of the
SEVA sail and the parasol should begin about 1:30. Weather
conditions continue to be favorable for launch on Friday
morning.

END OF TAPE

SL-1 MC-158/1

Time: 12:15 a.m. CDT, 145:05:15 GET
5/25/73

PAO This is Skylab Launch Control. We're T minus 6 hours 30 minutes and counting in our countdown for the first manned mission in the Skylab Program. The countdown is moving along well. The cryogenic loading, which during a normal count would be going on at this time, was moved up in the countdown procedure and has actually been completed. This was done so that the crews can come back in and complete some stowage at this time. That close-out crew now is at the pad, the hatch to the command module has been opened, and the crew is inside working inside the spacecraft. We'll have one extra man on the close-out crew assisting with the stowage procedures. Weather for launch time, 9:00 a.m. this morning, is expected to be partly cloudy, winds from the southwest about 10 knots, temperature's about 78 degrees Fahrenheit at launch time. Countdown going smoothly, T minus 6 hours 29 minutes and counting, this is Kennedy Launch Control.

END OF TAPE

SL-1 MC-159/1

Time: 1:16 a.m. CDT, 145:06:15 GET
5/25/73

PAO This is Skylab Launch Control. We're at T-5 hours 29 minutes and counting in our countdown for our first manned mission in the Skylab program. At this time the final pieces of flight equipment have arrived at the pad area. They're being taken up to the white room area, and they will be stowed in the command module. Along with the closeout crew is a flight crew equipment specialist who will assist in this stowage. Also inside the spacecraft is the astronaut member of the closeout crew, Hank Hartsfield. Also going on in the count at this time, a final antenna alignment has just been completed. During this alignment a check is made to ensure that at any automatic tracking position the antenna will track the vehicle at liftoff. Cryogenics were loaded earlier today; earlier in the count than usual so that we could do this stowage here during the final hours. Cryogenics are liquid hydrogen and liquid oxygen. Liquid oxygen the fuel for the second stage. The liquid oxygen, excuse me, is the oxidizer for the first and second stage, liquid hydrogen fuel for the second stage. These were loaded earlier. They are continued to be topped off during the count to ensure we have a full load at liftoff. They are extremely cold. There's some boiloff takes place, so it is necessary to continue topping them. This topping off is terminated during the final countdown sequence. The countdown moving along smoothly. T-5 hours 27 minutes and counting. This is Kennedy Launch Control.

END OF TAPE

SL-1 KC-160/1

Time: 02:07 a.m. CDT, 145:07:07 GET
5/25/73

PAO This is Skylab Launch Control we're at T minus 4 hours 37 minutes and counting in our countdown for the launch in the first manned mission in the Skylab program. At this time Astronaut Hank Hartsfield, the astronaut member of the closeout crew is in the command module. He's working with test controllers going over some attitude command check. Also in the spacecraft at this time is a crew equipment specialist who is assisting in the stowage of the thermal shields. Cryogenic topping continues. Cryogenics were loaded earlier in the countdown. The weather for 9 o'clock launch this morning continues to look satisfactory. Just coming into the firing room here at launch complex 39 is Astronaut Bob Crippen. He will be the astronaut communicator here in the firing room, talking to the crew once they get into the command module. Countdown has moved along well. Cryogenic loading completed early as planned to afford some extra time for stowing this special thermal shield equipment. Now T minus 4 hours 36 minutes and counting this is Kennedy Launch Control.

END OF TAPE

SL-1 MC-161/1

Time: 03:02 a.m. CDT, 145:08:02 GET

5/25/73

PAO This is Skylab Launch Control we're at T minus 3 hours 42 minutes and counting. Countdown continuing to go smoothly. We've received word now that the flight crew Commander Pete Conrad, Science Pilot Joseph Kerwin, Pilot Paul Weitz have been alerted and are on their way for a brief physical examination at this time. At pad B complex 39 stowage is underway of the thermal shield devices. It's estimated now that this stowage should finish up about 1/2 hour from this time. Also Astronaut Hank Hartsfield the astronaut member of the closeout crew is in the spacecraft. He's been going through a extensive switch checklist with the test conductor in the manned spacecraft operations building spacecraft control room. Cryogenics were loaded earlier in the count, continue to be topped off and that topping off will continue down to the final minute of the countdown. Weather for lift-off time is predicted to be fair, favorable for launch at 9 a.m. this morning. Partly cloudy weather is expected. Surface winds southwest 10 knots and temperatures are expected to be approximately 78 degrees at launch time. T minus 3 hours 41 minutes and counting this is Kennedy Launch Control.

END OF TAPE

SL-1 MC-162/1

Time: 03:15 a.m. CDT, 145:08:15 GET

5/25/73

PAO This is Skylab Launch Control we're now at the T minus 3 hour 30 minute mark in the countdown. At this time we have a planned built-in hold. This hold will last for 1 hour and 13 minutes. The hold was originally scheduled in the launch at this time or in the countdown at this time to take care of any requirements for additional time needed in fueling. This is bringing the cryogenic fuels aboard the first and second stage of the vehicle. Actually this cryogenic fueling was completed early in the count last night to afford some extra time for stowage. That stowage is being completed at this time; that's being approximately 15 more minutes. The last item to be stowed has been moved into the spacecraft. After that is stowed the center couch which has been removed to accommodate the men doing the stowage and to be able to get to the space where the equipment is being stowed. That couch will be brought back aboard. It takes about 10 minutes to put that couch back in. We'll expect to resume the countdown at the 3 hour 30 minute mark at 5:28 a.m. At this time the astronaut crew has been alerted and has received their very brief medical examination. They'll be going on and having a short breakfast at 4:30 a.m. They are then scheduled to go to the suit room, all of this activity taking place in the Manned Spacecraft Operations Building where the crew quarters are located and where their suit room is located. They'll go to the suit room shortly after 5 and begin their suiting at that time. They are scheduled to depart the manned spacecraft operations building for the trip to the pad at 5:55 a.m. and that's about a 7 mile trip which takes about 20 minutes. They should begin entering the spacecraft at approximately 6:20 a.m. this morning. Last night shortly before the MSS was moved we did have some rain activity and some thunderstorms in the area. A minor lightning strike did hit the mobile service structure, the structure which surrounds the vehicle, gives it protection from both the elements and also environmental protection around the spacecraft. The service structure also affords access to workmen who are working on the vehicle. That structure is moved back now. It's moved back prior to cryogenic loading and will stay in its parked position through launch. Our count now in the planned hold T minus 3 hours 30 minutes and holding this is Kennedy Launch Control.

END OF TAPE

SL-1 MC-163/1

Time: 3:44 a.m. CDT, 145:08:44 GET
5/25/73

P'0 This is Skylab Launch Control. We are continuing our planned hold at the T minus 3 hours and 30 minutes mark. At this time, the crew has completed their brief physical examination. Crew Commander Pete Conrad, Science Pilot Joseph Kerwin, and Pilot Paul Weitz have now proceeded down to breakfast. Following their physical examination, which was conducted by Dr. Charles Ross and Dr. Jerry Rojenksy, Dr. Royce Hawkins, the Deputy Director of Life Sciences, Johnson Space Center, reported that the crew slept well last night and they looked good. For breakfast this morning they will be joined by Alan Shepard, Chief of the Astronaut Office at Johnson Space Center, and Donald K. Slayton, Director of Flight Crew Operations at Johnson Space Center. They will be having a breakfast this morning of orange juice, steak, and scrambled eggs. Here at the launch pad the stowage of equipment aboard the command module has recently been completed and at this time the center couch, the one which will be occupied by Science Pilot Joseph Kerwin, is being reinstalled. Our countdown continuing in the planned hold period, T minus 3 hours and 30 minutes, this is Kennedy Launch Control.

END OF TAPE

SL-1 MC164/1

Time: 04:28 a.m. CDT, 145:09:28 GET
5/25/73

PAO This is Skylab Launch Control. We've now resumed our count. T minus 3 hours 29 minutes 25 seconds and counting. Just prior to resuming the count the test supervisor here in the firing room, Bill Schick, pulled various elements of the launch team. Spacecraft reported they were ready to resume. Launch vehicle ready. Superintendent arrange operations ready. Houston flight called, said they were ready for flight crew departure. That departure is scheduled approximately 55 minutes past the hour, 5:55. The safety officer reported also, safety is ready for crew ingress; that's scheduled at T minus 2 hours and 40 minutes in the count. Hank Hartsfield, the astronaut member of the closeout crew, is still in the command module. At this time he has completed reinstallation of the center couch. That couch had been taken out while the equipment was being stowed. After following reinstallation of the couch, he has been working with the spacecraft test conductor, Bob Reed, going over switch checks to verify switches have not been bumped or placed in the wrong position. Bob Reed reading off the various switches and the proper position, and Hartsfield verifying that. The prime crew, Commander Pete Conrad, Science Pilot Joseph Kerwin, and Pilot Paul Weitz at this time in the suit room suiting up. Following a breakfast with the Chief of the Astronaut Office, Alan Shepard, and Donald K. Slayton, joining them for breakfast this morning. A breakfast of steak and eggs and orange juice. Count continuing now, T minus 3 hours 27 minutes and counting. This is Kennedy Launch Control.

END OF TAPE

SL-1 MC-165/1

Time: 4:50 a.m. CDT, 145:04:53 GET

5/25/73

PAO This is Skylab Launch Control. The prime crew is now departing the Manned Spacecraft Operations Building. They are showing obvious joy at finally getting to their launch. They are entering their van, specially designed van to carry them from the Manned Spacecraft Operations Building out to the launch pad. They are accompanied by Alan Shepard, Chief of the Astronaut office, and Donald K. Slayton, Director of Flight Crew Operations at the Johnson Space Center. They are fully suited at this time, breathing on what are called portable oxygen ventilators. They'll be on these portable oxygen ventilators until they are into the cabin of the command module and plug into the oxygen system there. They have entered the van now. The van will be leaving shortly for this trip out to the pad. It's approximately 7 miles from the Manned Spacecraft Operations Building to the pad, and we expect it will take them about 20 minutes to make the trip. The countdown proceeding smoothly, T minus 3 hours 4 minutes and counting, this is Kennedy Launch Control.

END OF TAPE

SL-1 MC167/1

Time: 05:20 a.m. CDT, 145:10:20 GET

5/25/73

PAO This is Skylab Launch Control. T-2 hours 37 minutes and counting. At this time the Commander Pete Conrad has moved across the swing arm with the - at the 320 foot level and is about to enter the command module. With him is the Pilot, Paul Weitz. Doctor Joseph Kerwin is remaining back at the elevator area. He has a seat back there, he can sit down and standby back there while he waits for the other two astronauts to enter the spacecraft. He's being treated to a rather nice sunrise scene this morning. The last astronaut during Apollo 17 who was in his position standing by at the elevator area had quite a dramatic night scene. That was Ron Evans on the Apollo 17 launch which was a night launch. At this time the Commander is just now entering the spacecraft. Count continuing to move along well. T-2 hours 36 minutes and counting. This is Kennedy Launch Control.

END OF TAPE

SL-1 MC-168/1

Time: 05:25 a.m. CDT, 145:10:25 GET
5/25/73

PAO This is Skylab Launch Control, T minus 2 hours 32 minutes and counting in our countdown for the first manned mission in the Skylab program. Astronaut Pete Conrad has now moved into the center and over to the left hand couch which he will occupy during the launch phase of the mission. He's now being strapped down into that couch. Hank Hartsfield, the astronaut member of the support team, is in the command module assisting him in, as is one of the suit technicians. As he hooked up his communications, he made a communications check with the pad leader and also with the spacecraft test conductor, Bob Reed. After a few pleasant good mornings, Bob asked him how the handy man is doing today in obvious reference to the tasks ahead of Pete in the little repair job they have on the Skylab vehicle. After that Pete asked him, "Are you guys going to blow the rest of the clouds out of here by 9 a.m.?" To which Reed replied, "What we don't blow out, you guys will." Standing by in the white room is the pilot for the mission, Paul Weitz. He will be the next one to enter the spacecraft. He'll enter on to the center couch, move over to the right hand couch. Dr. Kerwin still standing by in the elevator area at this time. Now T minus 2 hours 31 minutes and counting, this is Kennedy Launch Control.

END OF TAPE

SL-1 MC-169/1

Time: 05:32 a.m. CDT, 145:10:32 GET
5/25/73

PAO This is Skylab Launch Control; we're now T minus 2 hours 25 minutes and counting. The pilot now in position, and science pilot Dr. Joseph Kerwin has now come across the swing arm and is about to enter the spacecraft. He is the last of the three crewmen to enter the spacecraft. Still in the spacecraft with the three crewmen is Hank Hartsfield, the astronaut member of the closeout crew. He'll remain in there until the three men are firmly positioned in their couches and some switch checks are made. The procedure for the men as they enter are to remove the boot protectors that they have on the boots of their space suit. They are then assisted into their couch where they connect to their communications and make several switch checks. They then remove the gas connector plugs from their suits, and this is the plug which they use to plug in the oxygen system in the spacecraft. They then connect that oxygen system, turn off the portable oxygen ventilator, which is what they have been breathing on up to this point since they have been suited, disconnect the POV hose and that ventilator is removed then from the spacecraft. There is also a plastic helmet protector over their space suits. That helmet protector is removed, also then moved out of the spacecraft. The crewman is then positioned firmly into his couch. He is strapped in with restraint harnesses similar to an aircraft. And he has a life vest on, and that is properly positioned. After this procedure is completed, he goes through several switch checks and communications checks. These all have been completed now with the three crewmen. Our countdown continues to move along smoothly. T minus 2 hours 24 minutes and counting, this is Kennedy Launch Control.

END OF TAPE

SL-1 MC170/1

Time: 06:02 a.m. CDT, 145:11:02 GMT
5/25/73

PAO This is Skylab Launch Control. T-1 hour 55 minutes and counting in this, the first manned mission in the Skylab Program. At this time the hatch has been closed on the command module. Cabin purge and leak checks underway. And all continuing to move along smoothly. To recap the evening's activities, the loading of cryogenics, that's liquid oxygen and liquid hydrogen aboard the vehicle, were moved up to give some last minute stowage time. The loading of cryogenics went very smoothly; it was finished at 12:45 a.m. this morning. The last equipment to be stowed aboard the command module (this was the SEVA sail and the parasol, two of the thermal shields) arrived at the pad at 2:10 a.m. this morning. These were stowed with some other items. The stowage was completed at 4:20 a.m. Following stowage, the couch, which had been removed to assist with the stowage, was re-installed. This was the center couch occupied by the Science Pilot Doctor Kerwin. The flight crew was alerted at 3:45 this morning. They had a brief physical after that. Then had breakfast with Donald K. Slayton and Alan Shepard. They had the traditional breakfast of steak and eggs and orange juice. We had a 1 hour and 13 minute plan hold period at the 3 hour and 30 minute mark. This is planned in the countdown to take care of any problems which might come up during cryogenic loading. The flight crew departed the Manned Spacecraft Operations Building where the crew quarters are and where they suited up this morning at 5:55 a.m.. It's about a 7-mile ride to the pad, takes a little over 20 minutes to get there. The first crew member to enter the spacecraft was the crew commander, Pete Conrad. We logged him aboard the spacecraft at 6:22 a.m. or T-2 hours and 36 minutes in the count. He was followed by Pilot Paul Weitz at T-2 hours 31 minutes, this is 6:27 a.m. The Science Pilot Dr. Joseph Kerwin stood by in the elevator area while his two comrades entered the spacecraft. When they were into their couches, Kerwin came across the swing arm at the 320-foot level and was the final astronaut to enter the spacecraft. He entered at T-2 hours 24 minutes. The hatch was closed just a short time ago at 6:50, and the cabin leak and purge - purge and leak checks were started. The countdown continuing to move along smoothly at this time. T-1 hour 53 minutes and counting. This is Kennedy Launch Control.

END OF TAPE

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L
2

SL II MC 1/1

Time: 6:32 a.m. CDT, T-01:25:00 GET
5/25/73

PAO This is Skylab Launch Control T minus 1 hour 25 minutes and counting. Just completed at the T minus 1 hour and 30 minute mark were a simulated first motion signal test. During this test the simulated signal indicating first motion is sent to the Eastern Test Range and also to the Mission Control Center in Houston. During the actual lift-off this first motion signal starts the countdown clock in the plus time at those two areas. Recently completed were checks of the emergency detection system. This is a system that is designed to sense and react to any emergency situation resulting from a launch vehicle malfunction during the early portion of the powered flight. During most of the first stage flight the EDS, as it's called, provides the capability for automatically aborting the mission. The auto abort system is turned on at lift-off and disabled by the crew about 2 minutes into the flight. The system senses such things as loss of thrust in first stage engines or excessive rates in pitch or yaw. The test takes about 30 minutes, it's conducted with the spacecraft commander, Pete Conrad, and the launch vehicle people here in the firing room. During the test, simulated emergency conditions are sent to the vehicle and lights in the spacecraft light indicating what the nature of the emergency is. We have one more hold planned in the countdown, that's at the T minus 15 minute mark. Nominally that will be for 2 minutes duration. At that time the clock will be updated to correspond with the orbiting Skylab overhead. The close out crew at the white room area is securing now for their cabin purge and leak checks. Everything continues to move along smoothly there. Now for a status report from the Mission Control we go to Houston.

PAO This is Skylab Control at Houston at minus 1 hour 24 minutes and continuing with the count. In the Mission Control Center two teams of flight controllers now on station at their consoles proceeding toward the launch of Skylab 2. The crimson team of flight controllers headed by Flight Director Don Puddy managing the orbital workshop systems, and the purple team headed by Flight Director Phil Shaffer, which will be in control for the manned launch and rendezvous phase of the flight. The Saturn workshop is presently in an orbit of 239 nautical miles by 234 nautical miles. An average workshop cabin temperature now reading 120 degrees. At the time of ignition, the workshop will have passed directly overhead and should be approximately 780 nautical miles down-range at the time of ignition. Flights Dynamics advises that Skylab 2 will be launched with an azimuth of 47.58 degrees. CAPCOM for our launch will be Astronaut Dick Truly. We're at 1 hour 23 minutes, continuing with the count at Mission Control Houston, this is Skylab Control.

END OF TAPE

SL-II MC2/1

Time: 07:03 a.m. CDT, T-00:55:00 GET
5/25/73

PAO This is Skylab Launch Control we're at T minus 55 minutes and counting. T minus 55 and counting in the first manned mission in the Skylab program. The closeout crew at the pad is now clearing the pad area. Before leaving, the pad leader confirmed that the white room area had been completely secured, all loose equipment removed and stowed and the tool and supply cabinet secured. There is an environmental control hood which attaches between the white room area and the spacecraft. That's also now been secured. He reported back that the white room now ready for swing arm retract. This will happen at the T minus 45 minute mark in the countdown and actually the swing arm will come back to what is called the 12 degree position. This is the standby or park position. And it will remain there until the final minutes in the launch. At T minus 5 minutes it will swing back to the fully retracted position. Also underway at this time the superintendent of range operations calling in to Bill Schick the Test Supervisor indicating that the launch danger area has been declared clear for a launch. In the spacecraft itself pilot of the mission, Paul Weitz been working with ground controllers on spacecraft communications frequency and power readouts. Weitz selected as an astronaut in 1966 was a member of the astronaut support crew for Apollo 12. That Apollo 12 mission also commanded by Pete Conrad. Weitz holds a degree in aeronautical engineering. He's a Commander in the Navy with approximately 4000 hours of flying time. Our weather at this time is generally cloudy in the launch area, however, some of that cloud is expected to dissipate during the next hour. For launch time the weather men are predicting broken clouds. These will be in several layers. The tops of the upper layers expected to be about 15,000 feet and the base of the lower layer is about 6,000 feet. Winds at launch time are expected to be approximately 10 knots from the southwest and the temperature about 78 degrees Fahrenheit. Closeout crew now cleared the area. T minus 53 minutes 40 seconds and counting this is Kennedy Launch Control.

END OF TAPE

SL-II MC3/1

Time: 07:13 a.m. CDT, T-00:45:00 GHA

5/25/73

PAO This is Skylab Launch Control; we're at T minus 45 minutes and counting. We'll expect the swing arm to be retracted shortly. Mark there comes the swing arm, moving back to the park position; this is a 12 degree park position, approximately 10 to 15 feet from the vehicle. It will remain there now until approximately 5 minutes in the countdown, and at that time it will be moved back to the full retract position. Also underway at this time are interrogations of the C-band beacons. These are two beacons aboard the instrument unit of the vehicle. During this test these are simply checked, the beacons are checked to insure that they are being tracked and will be tracked during the powered phase of flight. During powered flight the beacons give position data as well as speed and acceleration. Now that the swing arm has come back, the launch escape system atop the command module will be armed. Stoney, Astronaut Bob Crippen, will position the mobile launcher elevators at the 320-foot level in what is called the egress mode. The - Bob Crippen is the Astronaut communicator name that is called, he is called Stoney, will be in the Launch Control Center. Crippen was also a member of the crew which entered the altitude chamber for the Medical Experiments Altitude Test, 56-day test run in Houston last July. A short time from now we expect the science pilot, Joseph Kerwin. We'll begin arming the service module reaction control system. To do this, he actually opens valves and allows the hypergolic fuels to flow down through the lines down to the engines. The countdown has proceeded very smoothly this morning. Now at T minus 43 minutes 4 seconds and counting, this is Kennedy Launch Control.

END OF TAPE

SL-II MC4/1

Time: 07:30 a.m. CDT, T-00:27:00 GET

5/25/73

PAO This is Skylab Launch Control. T-27 minutes 59 seconds and counting. Preflight command system tests for the mission control center in Houston have just been completed. Also just completed at this time was a final level adjustment of RP1, the fuel used in the first stage. RP1 is actually loaded prior to the countdown demonstration test and replenished last night before cryogenic loading. This level adjustment made here during the final hour of the count is necessary to take into account temperature and humidity and to assure us a full flight load. Cryogenic loading of course, also completed earlier this morning and topping continues. The astronaut crew completing their preflight check list in the command module at this time. Now we'll switch to Houston for a status from the Mission Control Center.

PAO This is Skylab Control Houston at -27 minutes and counting. Flight director Don Puddy of the workshop team is going around the Horn with his team in the mission control center for a GO/NO GO for Skylab launch based on orbital workshop data. Given a GO at this time for the launch of Skylab II. The workshop is now passed out of range of the Honeysuckle tracking station. The next station to acquire will be Texas on this the 156 revolution. Meanwhile the Shaffer team of flight controllers has been given a GO for the start of the terminal count which is now in progress. The displays of mission control center in Houston now selected for the launch of Skylab II. At -26 minutes and continuing with the count, this is Skylab Control Houston.

END OF TAPE

SL II MC 5/1

Time: 7:36 a.m. CDT, T-00:21:59 GET
5/25/73

PAO This is Skylab Launch Control passing the T minus 22 minute mark in the countdown for the first manned mission in Skylab. Science Pilot Joseph Kerwin at this time reading out temperatures, pressures, and quantities in the service module reaction control system quadrant. Cryogenic fuels aboard the launch vehicle continue to be topped. We have one more hold as we aim toward our 9:00 a.m. lift-off. That's a nominally 2 minute hold and we're coming to the T minus 15 minute mark. Our countdown continuing to go smoothly at this time, T minus 21 minutes 30 seconds and counting, this is Kennedy Launch Control.

END OF TAPE

SL-II MC6/1

Time: 07:42 a.m. CDT, T-15 min GET

5/25/73

PAO This is Skylab Launch Control we're now at the 15 minute mark in the count, T minus 15 minutes and holding this is a planned hold period nominally for 2 minutes. It's a final clock adjustment to assure lift-off at the proper time in conjunction with the orbiting Skylab overhead. Interrogation of radar beacon number 1 has just been completed. When we come out of this hold at the T minus 15 minute mark the spacecraft will go to full internal power. Actually the fuel cells have been supporting the spacecraft at this time but they have also had a backup of ground support power. In the command module the crew completing their checks. They actually on their display panels have some 24 instruments, 566 switches, 40 event indicators and over 70 lights. Inside the command module they have approximately 70 cubic feet per man. This is a little larger. A little more room than one would have in a compact car. Once they get into Skylab, however, that will change considerably. They will actually have about 59 times the volume in Skylab that they have to work in in the command module. At this time Stony, the astronaut communicator Bob Crippen here in the Launch Control Center, the Launch Operations Manager, Paul Donnelly and the Spacecraft Test Conductor, Bob Reed have switched to the astro launch circuit for communications checks. This is the circuit which will be used by the astronaut crew and these members at launch time. When he came aboard this morning Astronaut Pete Conrad commented that he hoped the launch team planned to blow the clouds away by 9 a.m. The clouds, in fact, are breaking up somewhat at this time. Bob Reed, the Spacecraft Test Conductor, indicated that if the clouds weren't all blown away he was sure that they would do it as they lifted off. We're preparing to pick up the countdown now. Mark T minus 15 minutes and counting. This is Kennedy Launch Control.

END OF TAPE

SL-II MC7/1

Time: 7:47 a.m. CDT, T-00:10 GET
5/25/73

PAO The crew now making some quick voice checks on their astrocom circuit. Cryogenic topping continues. Swing arm number 9 in the standby position. It will be moved back to the full retract at T-5 minutes. Now T-10 minutes 42 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

SL-II MC8/1

Time: 7:49 a.m. CDT, T-9 min GET

5/25/73

PAO This is Skylab Launch Control crew finishing up now in their checks on communications. Launch Operations Manager Paul Donnelly wishing the crew good luck, God's speed and good sailing. Now T minus 9 minutes 47 seconds and counting this is Kennedy Launch Control.

END OF TAPE

SL-II MC9/1
Time: 7:54 a.m. CDT, T-7 min GET
5/25/73

PAO This is Skylab Launch Control we're passing the 6 minute mark in the countdown now. Various personnel now reporting in to the spacecraft test supervisor Bill Schick that they are ready and GO for launch. Bob Reed the spacecraft test conductor has indicated that the spacecraft is GO. Launch operations manager Paul Donnelly reports GO and the director of launch operations Walter Kapryan also has reported GO for a launch. Final computer programs are now being run to place the launch vehicle in a launch mode. In the spacecraft the final action to be taken there will be at the T minus 4 minute mark. Paul Weitz will turn on the spacecraft batteries and at T minus 45 seconds, the last action to be taken by the crew will be taken by Pete Conrad when he makes a final guidance alignment. We're coming up now to the 5 minute mark. At that time the swing arm, swing arm number 9 will come back to the full retrack position. Actually for the Saturn-IB there are only 5 swing arms. The number 9 designation comes from the earlier launches using this same mobile launcher, using the Saturn-V. Swing arm now coming back to the full retrack position. It will remain in that full retrack position now for the rest of the countdown. At T minus 3 minutes and 7 seconds the count will go on the automatic sequencer and will be carried out automatically from that time on. Now at T minus 4 minus 39 seconds and counting this is Kennedy Launch Control.

END OF TAPE

SL-11 MC-10/1

Time: 7:57 a.m. CDT, T-3 min GET
5/25/73

PAO This is Skylab Launch Control. The launch sequence has started. We're now on the automatic sequencer, and the countdown will be run now by that automatic sequencer. The number of functions are carried out by the sequencer, and they must be carried out in the proper order, or they would be automatically shut down. Also, at the same time, the launch crew here in the firing room will continue to monitor their various readout temperatures, checking the gages for pressures and rates. They could override the sequencer if necessary. At the T-3 minute and 6 second mark, the automatic sequencer terminated the liquid oxygen and liquid hydrogen replenishing. These cryogenic fuels have been being replenished since fueling was actually completed early this morning. After this termination the fuel tanks will be pressurized. Actually pressurization has now started. The second stage liquid oxygen tank has now been pressurized, and the first stage fuel tank also has been pressurized. Now passing the 2 minute mark in the countdown. The vents closing and the pressurization is taking place on the 2 stages of the Saturn IV. At the T-1 minute 15 second mark, Paul Weitz will trip two switches in the command module, placing the spacecraft batteries on line. These batteries will give added support to the fuel cells and also act as a backup to the fuel cells. Fuel cells also on line at this time. T-1 minute 30 seconds and counting. Our countdown continues to go smoothly. Also during the automatic sequence we'll switch to internal power. We've been carrying the power from a ground source up to this point to save on the flight batteries. At T-50 seconds in the count, we'll switch to internal power and stay on internal power for the remainder of the count. We are approaching the 1 minute mark in our countdown. MARK T--

END OF TAPE

LAUNCH SL II

SL-II MC-11/1
Time 08:01 a.m. CDT, T-1 min GET
5/25/73

PAO Countdown MARK; T-1 min., 1 minute and counting in the launch of the first manned mission in Skylab. T-50 seconds, T minus 50 seconds, and counting. And we are now going to internal power, all stages switching to internal power, stages now and fuel tanks pressurized. Approaching the 30-second mark in countdown. At 30 seconds water will begin spraying on the deck of the mobile launcher. T minus 30 seconds, and the countdown continuing to go smoothly. The Skylab, itself, orbiting some 780 nautical miles northeast of KSC, at this time. T-17 seconds and counting, T-15. At T-3.1 second we'll expect the engine sequence to start on the vehicle. T-7, 6, 5, 4, 3, engine sequence start, 2, 1, 0. We have launch commit and we have lift-off. The clock is running and Skylab has cleared the tower.

SC Tower and Houston, Skylab II, we fix anything, we've got a pitch and a roll program.
PAO Houston is now controlling.
CC The thrust is going all engines.
SC Boy, is that a smooth ride.
PAO " Twenty five seconds pitch and roll program started. Skylab now maneuvering to its proper flight path attitude. MARK 35 seconds, 1 nautical mile in altitude. Given a green by-range safety. MARK 45 seconds, cabin pressure relieving, adjusting now from sea level to a space environment. MARK 50 seconds, 2 nautical miles in altitude. And roll is complete, Houston.
SC Roger. Standby for mode-1 BRAVO. MARK,
CC
1 BRAVO. Roger. Propellant ... as RCS ...
SC Roger.
CC MARK, 1 minute 8 seconds roll program completed.
CC Skylab, Houston, you're feet wet.
SC Roger, feet wet.
PAO That call out from Capcom Dick Truly, says Skylab, now, capable of water landing. One minute, 20 seconds, passing through the period of maximum aerodynamic pressure on the vehicle. One minute 25 seconds, 8 nautical miles in altitude. MARK, 1 minute 35 seconds pass through MAX Q, Skylab still flying steady on all 8 engines.
SC JEDS (garble) engine, launch vehicle rated are all off.
CC Roger, stand by for mode 1 Charlie. MARK,
your 1 mode, Charlie.
SC 1 Charlie.

SL-II MC-11/2

Time: 08:01 a.m. CDT, T-1 min GET
5/25/73

PAO The status check in mission control by Flight Director Phil Shaffer, a GO no GO for staging. Given a GO, for staging.

CC You're GO for staging, you're looking good.

PAO MARK, 2 minutes, 6 seconds, 21 nautical miles in altitude, 20 nautical miles downrange, velocity now reading, 5947 feet per second. Coming up now on staging and shutdown.

PAO Center engine shutdown. Seven outboards out.

SC All right, I've got an S-IVB light Houston, and a nice staging.

CC Roger, that.

PAO MARK, 2 minutes, 35 seconds, staging on schedule. Conrad, Weitz, Kerwin, now riding on a good second stage engine. Coming up now a launch escape tower jettisons.

SC 4-B.

SC Tower jet on time.

CC Roger, tower jettison, you're mode 2.

PAO MARK, 3 minutes, 2 seconds, 47 nautical miles in altitude. The launch escape tower now ejected, reports Conrad, his crew safety roll no longer required. Three minutes 12 seconds, 50 nautical miles in altitude, 84 nautical miles downrange. Velocity now reading 8200 feet per second.

PAO 3 minutes, 25 seconds, the first stage in launch escape tower both falling away now, headed for their own splash downs. Meanwhile, Conrad, Weitz, Kerwin, now at 58 nautical miles. The Skylab continuing to climb, moving out well beyond the Earth's atmosphere.

SC Okay. Houston, the computer looks good here.

CC Roger, we concur, CMC's go.

PAO 3 minutes 58 seconds, 66 nautical miles in altitude, 140 nautical miles downrange.

CC Houston, looking good, GO at 4 minutes.

SC And we're GO, here, Houston.

PAO MARK, 4 minutes, 15 seconds, now at 71 nautical miles in altitude, 167 nautical miles down range, Skylab's onboard performance continues smooth. Onboard reading show, Conrad, Weitz, Kerwin with their computer in program 11, the earth orbit insertion program, ticking off their own altitude velocity. Velocity now reading, 9852 feet per second. MARK, 4 minutes 40 seconds, 77 nautical miles in altitude, at 199 nautical miles downrange. Flight Director Phil Shaffer pulsing his flight team, looking good.

SL-11 MC-11/3

Time: 08:01 a.m. CDT, T-1 minute GET
5/25/73

CC Skylab, Houston. You're GO in five
minutes, set your trajectories right on the nominal.
SC And, we're go here, Houston, looks good
in here.

CC Roger.

PAO MARK, 5 minutes, 10 seconds, 82 nautical
miles in altitude, 244 nautical miles downrange. A trajectory
data in mission control looking good. Skylab now threading
the eye of the desired flight path orbit. We're at 5 minutes,
22 seconds, 11,326 feet per second, now traveling Skylab.

PAO MARK, 5 minutes 35 seconds. Skylab now
85 nautical miles in altitude. Skylab's climb for altitude
now essentially complete, moving out now for downrange dis-
tance. Conrad, Weitz, Kerwin, now flying almost parallel to
the Atlantic below in a heads down position. We show a down-
range distance of 312 nautical miles.

CC Skylab, Houston, you can GO at 6 minutes.

SC Roger, we're GO up here.

CC Roger.

PAO MARK, 6 minutes, 10 seconds, that GO
given by Capcom Dick Truly. Responding spacecraft commander
Pete Conrad. We now show Skylab at 88 nautical miles in
altitude, 362 nautical miles downrange.

SC (Garble), Houston. Standby to GIMBAL
motors at 7.

CC Roger.

PAO MARK, 6 minutes 45 seconds, Skylab
velocity building up now, now reading 14,538 feet per second.
Conrad, Weitz, Kerwin, traveling almost parallel to the
east coast of the United States, the most northerly powered
flight in the space for astronauts, thus far.

CC Skylab, Houston. We're go at 7 minutes.

SC Okay, Houston, 4 good Gimbal motors, then
we're GO at 7.

CC Roger, copy.

PAO MARK, 7 minutes 25 seconds, 89 nautical
miles in altitude, 522 nautical miles downrange now for
Skylab, velocity now reading 16,709 feet per second.

SC Hey, do we just have - We just have
PU shift, Houston?

CC Roger, we concur and you're GO at 8 minutes.
SC Okay.

PAO MARK, 8 minutes 10 seconds, a good
propellant and utilization shift, says Booster Engineer, giving
a change in fuel oxidizer ratio of - for more efficient engine
performance in space. We show 87 nautical miles in altitude,
665 nautical miles downrange. Velocity now reads 19,605 feet
per second.

SL-II MC11/4
Time: 08:01 CDT, T-1 min GET
5/25/73

PAO Predicted time of shutdown, 9 minutes
49 seconds.
CC Skylab, Houston, we predict shutdown at
9 plus 49.
SC 9 plus 49. Understand.
CC That's affirm.
PAO Coming up on 9 minutes, we now show
Skylab at 85 nautical miles in altitude, 787 nautical miles
downrange.
CC Okay, we're GO here.
PAO 9 minutes 12 seconds. Skylab given a
GO for passage over Europe, range safety concurs.
CC Stand by for mode 3 Alfa.
CC MARK. You're mode 3 Alfa.
SC 3 Alfa.
CC Stand by for mode 4 capability.
CC MARK. You're mode 4.
SC Mode 4.
PAO Mark down is 35 seconds. That mode 4
callup from Dick Truly, says Skylab can reach orbit on
spacecraft power only, 83 nautical miles in altitude, 950
nautical miles downrange.
PAO Standing - -
SC Good shutdown Houston, 25 825.
CC Roger. Copy.
SC (Garble) 189.1 by 83.5.
CC Roger. Looks good. Stand by.
PAO 10 minutes, 10 seconds 3-IVB shutdown
on time. Skylab now in orbit, that was an initial reading
from the onboard computer of 189 nautical miles by 83.5
nautical miles.

END OF TAPE

SL-11 MC12/1

Time: 08:12 a.m. CDT, 10:00 GET
5/25/73

PAO S-IVB shutdown on time. Skylab now in orbit. That was an initial reading from the onboard computer of 189 nautical miles by 83.5 nautical miles.

CC Skylab Houston we confirm you're GO for - you're in a nominal orbit and you're cleared for a nominal separation sequence.

SC Roger, Houston. Thank you.

PAO Skylab Control Houston, 12 minutes. The status check, GO/NO GO for separation, indicates we're GO for separation. This at 16 minutes ground elapsed time should be a burn of 3 feet per second.

PAO Skylab Control Houston at 14 minutes ground elapsed time. Early tracking data on the ground shows an orbit of 192 nautical miles by 83.5 nautical miles. This close to the prediction based on today's launch with current rendezvous conditions. Had we launched 10 days earlier the apogee would have been more than - approximately 70 miles lower.

PAO Skylab Control Houston 15 minutes ground elapsed time. Out of range now with Bermuda tracking. Less than 1 minute away now from predicted time of separation.

END OF TAPE

SL-II MC13/1

Time: 08:18 a.m. CDY, 00:15:00 GET
5/25/73

CC Skylab, Houston. Be advised we don't have a ARIA data, and could you give us an idea of how the separation went?

PAO Dick Truly trying to reach Skylab through an ARIA aircraft.

SC Also, Houston, it read about 2.3 feet per second on separation and about 3.4 on the CMC.

CC Roger; copy. 2.3 feet per second on the EMS; CMC read 3.4.

CC And Skylab; Houston. In the event you said anything prior to giving me those two numbers, I did not get it.

SC Okay, Houston (garble).

SC Hello, Houston. How do you read?

CC CDR, Houston. I read you now. How me?

SC Read you loud and clear. We got a good look at the booster, and you've got four perfectly deployed (garble) panels. No sweat.

CC Roger. Thank you much.

PAO Skylab Control Houston, 19 minutes ground elapsed time. That was Pete Conrad reporting the 4 SLA panels had deployed perfectly in the course of separation. Talking to Dick Truly, CAP COM here in mission control. 19 minutes of ground elapsed time. Less than a minute away now from acquisition by Madrid tracking. This is Skylab Control Houston.

CC And Skylab, Houston. We've got you AOS in Madrid now. How do you read?

CC Skylab, Houston. How do you read?

PAO CAP COM Dick Truly calling Skylab through Madrid.

SC Hello, Houston. You read the PLT?

CC PLT, Houston. I read you loud and clear. How me?

SC Roger. We've been reading you loud and clear. Apparently you are not reading the CDR.

CC Okay, I'm reading you loud and clear and be advised that the NCI pad, the I-align pad, and the back-up - correction, the backup GDC align pad, the launch rendezvous realign pad, and the NCI pad are all good. No update required.

SC Okay, all good. Did you get the dope on the separation from the SIV?

CC Paul, what I got was the two numbers. The 3 - the 2.3 and the 3.4 feet per second. I copied that the SLA panels are all deployed okay, and I didn't get anything else.

SL-II MC13/2
Time: 08:18 a.m. CDT, 00:15:00 GET
5/25/73

SC (garble) we've just been watching it opening
slowly here. You got a very stable SIV.
SC Okay, Houston. How do you read me,
Houston? You read the CDR?
CC CDR, Houston. I read - that trans-
mission loud and clear.
SC Okay. I guess we're coming up over
Europe here. I never seen so many contrails in my life
down there.
CC I trust you're higher than all of
them.
SC I hope so.
CC Skylab, Houston. We're about 1 minute
from LOS and Madrid, and we'll see you at the ARIA at 52.
SC Okay, Houston. And be advised we're just
climbing slowly above the SIVB out in front of me and he's
very stable. And it's no sweat on those SLA panels.
CC Roger; copy. Thank you.
SC And do you read, Houston?
CC Affirmative. Go ahead.
SC Okay, we're just dumping the cabin to
four now.
CC Roger; copy.
PAO Skylab Control Houston. 24 minutes
ground elapsed time. We've had loss of signal with Skylab
on this first pass over the Madrid tracking station. Next
station to acquire will be Carnarvon some 28 minutes from this
time. During our pass over Madrid we heard CAP COM Dick Truly
speaking with spacecraft commander, Pete Conrad, and spacecraft
pilot, Paul Weitz. We're at 25 minutes ground elapsed time.
This is Skylab Control Houston.

END OF TAPE

SL-11 MC14/1

Time: 08:51 a.m. CDT, 00:15:00 GET
5/25/73

PAO This is Skylab Control Houston at 51 minutes ground elapsed time, less than a minute away now from predicted time of acquisition, voice acquisition that is, with an ARIA aircraft leading into a station contact with Carnarvon. We presently show tracking data on Skylab giving an orbit of 194.3 nautical miles by 83.6 nautical miles. Current velocity 25,242 feet per second. We've just had AOS with ARIA. We'll stand by.

CC Skylab, Houston through the ARIA. How do you read?

CC Skylab, Houston through the ARIA. For GARBLE minutes how do you read?

SC Okay, Houston, are you talking through the ARIA or Carnarvon?

CC We're uplinking through ARIA, Pete.

SC You're breaking up, Houston.

CC Roger, CDR. I hear a lot of static also and we are uplinking through ARIA.

SC We read you loud and clear. We're on the GARBLE to see what GARBLE.

CC Roger, Pete. I can hear you transmitting, but I just can't make it out. You're kind of garbled.

SC Okay, Houston. I said I read you now. We're on the timeline (garble) (static) at Carnarvon.

CC Roger. We can hear and understand you now.

PAO Skylab Control Houston 53 minutes ground elapsed time. Very ragged comm at this time with ARIA. We'll stand by for acquisition with Carnarvon momentarily. The only anticipated task on the part of the crew during this pass will be a program 52. That's a platform alinement of the onboard guidance and navigation system. Fifty-four minutes ground elapsed time, Skylab Control continuing to monitor.

CC Skylab, Houston. How do you read now?

PAO That's CAP COM Dick Truly placing the call 55 minutes ground elapsed time.

PAO The guidance officer confirms and, looking at his display in mission control, that program 52 of the platform alinement has been accomplished.

SC Houston, we read you loud and clear. How me?

CC Roger. Loud and clear now, Pete. And I'm standing by for the data.

SC Okay. Our first P52 was with ... 25 and 33. The Doctor did a magnificent job with the NOUN ... 5 of five balls working at the - the ... were minus 00010 plus 00071 plus 00056. The time 50:00. We have just completed P52 option 2. The stars were 25 and 33. Again the Doctor

SL-II MCI4/2

Time: 08:51 a.m. CDT, 00:51:00 GET

5/25/73

did his usual magnificent job, and he has the five balls again. ... the NOUN 93's were plus 00060, plus 00075, plus 00059. The time 54:30. And it looks like we're right on the timeline.

CC Hey, very good, Pate. Sounds good. Incidentally we think the little comm problem we had with you back there in Madrid was a ground problem; so we think your systems are all okay.

SC Okay and the PLT has a few words for you
GARBLE.

CC Roger. Go ahead PLT.

SC Okay, Dick, the only thing was we pumped the primary glycol accumulator up to about 50 percent. By putting the radiators back on the line, apparently one of them needed some fluid, because the glycol (static)

CC PLT, Houston. You dropped out right after you said, "after you put the radiator back on the line. what happened?"

PAO Skylab Control Houston, 58 minutes ground elapsed time. We appear to have had loss of signal with Carnarvon at this time.

CC Skylab, Houston. How do you read through the ARIA?

CC Skylab, Houston. We're through the ARIA. How do you read?

SC We read you through the ARIA (static)
(inaudible).

CC CDR, Houston. That transmission I copied that you read me - you were very garbled. Would you try again once more, please.

SC Okay, Houston, how do you read? 1, 2, 3, 4, 5, 5, 4, 3, 2, 1.

CC Roger, CDR. That time I copied you weak but clear. This comm through this pass though is very bad. Be advised we expect AOS at Texas at about 1 plus 34.

SC Okay. We'll see you then.

CC And Skylab; Houston. One little comment we had on the waste water dump checklist that you may be in now. In the event any time that you do happen to dump through zero, down to zero, if you do, we'd like you to deactivate the evaporator for about 30 minutes.

SC Okay. I'll do that.

CC Okay. Good.

CC Go ahead. Go ahead.

PAO This is Skylab Control Houston at 1 hour 2 minutes ground elapsed time. We expect no further communications with the crew aboard Skylab until our next acquisition over Texas. Meanwhile, an early look at our rendezvous evaluation gives us the following numbers. The NCI phasing burn:

SL-II MC14/3

Time: 08:51 a.m. CDT, 00:51:00 GET
5/25/73

at 2 hours 23 minutes 35 seconds ground elapsed time with a DELTA V of 207 feet per second, resulting orbit of 201 nautical miles by 194 nautical miles. The NC2 phasing burn at 4 hours, 41 minutes, 17 seconds with a DELTA V of 42 feet per second, resulting orbit 219 nautical miles by 201 nautical miles. The MCC corrective combination burn at 5 hours 27 minutes 23 seconds. Present planned DELTA V of 38 feet per second. Resulting orbit 224 nautical miles by 219 nautical miles. The NSR coelliptic burn at 6 hours 4 minutes 23 seconds as presently planned with a DELTA V of 19 feet per second, resulting orbit 229 nautical miles by 224 nautical miles. The TPI or terminal phase initiation maneuver at 7 hours 2 minutes and 55 seconds with a DELTA V of 21 feet per second, resulting orbit 235 nautical miles by 228 nautical miles. The TPP maneuver or terminal phase finalization, presently planned at 7 hours 36 minutes 34 seconds with a DELTA V of 29 feet per second, resulting orbit 239 nautical miles by 234 nautical miles. We will update these numbers as the evaluation becomes more refined. We're at 1 hour 4 minutes ground elapsed time and we will switch to the Kennedy Space Center for the Post Launch News Conference.

END OF TAPE

SL-II NC15/1

Time: 09:32 a.m. CDT, 1 :17 GET
5/25/73

FAO Skylab Control, Houston, at 1 hour, 32 minutes ground elapsed time, less than a minute away, now, from acquisition of Skylab through the Texas Tracking Station. Meanwhile, the surgeon advises us of the following heart rates at liftoff. For spacecraft Commander Pete Conrad, the heart rate 108, for Pilot Paul Weitz, a heart rate of 135, and for Science Pilot, Dr. Joe Kerwin, a heart rate of 90. During this state-side pass, we expect the NCC-1 phasing maneuver preliminary pad to be passed to the crew aboard Skylab. We've had acquisition with Texas.

PAO The NC-1 - -

CC Skylab, Houston. We're AOS at Texas for 5 minutes.

CC Skylab, Houston. How do you read?

PAO That's CAP COM Dick Truly placing the call up. We've not yet heard from the Skylab Crew. However, we're receiving good spacecraft data.

CC Skylab, Houston. How do you read?

SC Houston, we read you loud and clear. How us?

CC Loud and clear, Pete. Be advised, we do not need the P-52, and I've got a couple of pads, and before the pass is over, we'd like for the PLT to amplify the remarks on the primary glycol accumulator. We've still got about 4 minutes in this pass.

SC Okay. Go ahead with your pads

CC Okay. Here's an NC-1 preliminary pad, page 1-5.

SC Go ahead.

CC 002 23 3014 plus 2074 plus all 0s, plus all 0s, 180 009 002 1940 0009, the weight is 30852, pitch trim plus 107, plus 035. Go ahead.

CC And, Skylab, Houston. We'd like you to stop the cabin repress, we're high enough.

SC Okay, that's what Joe was crawling all over me and I was batting him away.

CC (Laughter) okay. And I'm standing by for a readback.

SC Okay. 002 23 3014 plus 2074, plus all balls, plus all balls, plus 180 009 002 1940 0009, 30852, plus 107, plus .35.

CC That's affirm, and the burn attitude check, is Star 33.

SC Star 33.

CC Rog. Shaft is 0740, Trunion 258. This'll be a dual bank SPS burn. And be advised, there's no plane change required.

SL-II MC-15/2

Time: 09:32 a.m. CDT, 1:32:17 GET
5/25/73

SC Whoopee.
CC And, I've got a Star acquisition pad for
you on page 1-Alfa.
SC Go ahead.
CC Roger.
CC Star 25 22 83 292 33 0740 258, go ahead.
SC Star 25 is 22 83 292, Star 33 0740 and 258.
CC Roger. You got that right. We're about
1 minute from LOS in Texas. We're going to have a short
break and then we'll see you at Newfoundland VHF for once
only.

SC Okay. Also, be advised, Houston, we've
read about your first 5 calls, Dick, and you weren't reading
us getting for some reason.

CC Roger, understand.
SC I'll talk to you about the ECS at New
Foundland, just two things of general interest, we're having
a whole lot of fun with all this brown cord up here, and
secondly we can see the S-IVB out ahead of us and it really
makes a plume when it vents.

CC Roger, Copy.
SC I guess we're coming up on the Mississippi
River right now, I can still a lot of flooding down there
and everything.

CC Roger, understand.
SC Okay, look. We're on the time line,
except for one thing, we have not gotten to the waste water
vent, because of the (garble) in front of the panel and that
is what we are reconfiguring right now, (Chuckle) and Dr.
Kerwin is wrestling the big pivot - -

PAO Skylab Control, Houston at 1 hour,
40 minutes ground elapsed time. We've had loss of signal over
Texas, our next station to acquire, Newfoundland. Meanwhile,
the NCC-1 preliminary maneuver pad was passed to the crew
aboard Skylab. This calls for a burn at 2 hours, 23 minutes,
30 seconds ground elapsed time, with a Delta-V of 207.4 feet
per second, the duration of the burn, 9 seconds. The resulting
orbit should read, 201.3 nautical miles by 194.2 nautical
miles. This maneuver will be performed outside of station
contact. We're at 1 hour 40 minutes ground elapsed time,
continuing to monitor, this is Skylab Control, Houston.

END OF TAPE

SL-II MC16/1

Time: 09:42 a.m. CDT, 1:42:00 CST
5/25/73

PAO Skylab Control Houston, 1 hour 42 minutes
ground elapsed time. Less than a minute away now from acquisition by Newfoundland tracking.

CC Skylab Houston through Newfoundland how
do you read?

CC Skylab Houston through Newfoundland VHF
how do you read?

SC GARBLE.

CC I heard you just a second, Pete, try again.

SC How do you read me?

CC Roger. You're dropping down in strength
but I think I can copy it and we're looking for EMS delta V
tests results if you've got them for us.

SC Okay. I have a note right here to give
them to you. Our bias was plus 1.2 feet per second and
1 minute and 40 seconds. GARBLE went from minus 100 minus
98.8. In pad D. Other check just fine. On the long burn it
looks like we'll bias at 2-1/2 feet per second.

CC Roger. Pete. Would you repeat that -
would you say that last again please.

SC I say it looks like we need to bias our
big burn but it won't make any difference. Break on
that one. We had a good BMAG 2 drift check. If you're ready
to copy the numbers I'll give them to you.

CC Go ahead.

SC Okay. NOUN 20 was 180.44 213.63 35999.
The attitude GARBLE were 181.5, 215.5 and 000.2 and the length
of time 33 minutes.

CC Roger, Pete. And on the EMS delta V
test results at that time it was very weak. Let me read them
back to you real fast to make sure I got them right. It was
plus 1.2 feet per second and 1 minute and 40 seconds and it
went from minus 100 to minus 98.8 and the rest of the check
went okay.

SC That's affirmative. And we have completed
everything on the time line. And we are in the process of
dumping the waste water at this time. (Garble) We're head over
heels in all kinds of packages.

CC Roger, understand and how is everybody
up there enjoying the zero g?

SC Everybody up here is enjoying the zero g
super and we're steering it by for your uplink at Madrid.

CC Roger. Very good. We've still got about
3 minutes left and if the PLT has the time he might amplify
on the glycol accumulator.

SC Here's what it was Dick. We serviced the -
brought the glycol accumulated quantity up to 50 percent GARBLE

SL-II MC16/2

Time: 09:42 a.m. CDT, 1:42:00 CET
5/25/73

When we put the radiators back on the line we got - obviously at least one of the radiators took a big slug of fluid. We dropped pressure. We dropped quantity. We got a glycol flow low light momentarily. The quantity stabilized at about 40 percent. We've been watching it vent. On the night side apparently the fluid cooled and got on down to about 37 or 38 percent and is now back up to 41.

CC

Roger. Thank you much. I copy that.

SC

The main thing is that it appears to not be a leak in there we just didn't expect that big slug to go.

CC

Roger. We copy, Paul.

PAO

Skylab Houston, 1 hour 48 minutes ground elapsed time. We're less than 2 minutes away now from loss of signal.

CC

Our initial thoughts are that we think we're stabilized and have got a good system but we're continuing to think about it.

SC

Okay. We agree Jim. But what we wanted to do is get your concurrence on that before we service it again to bring it up to 50 to 55 for that GARBLE.

CC

Yeah. Okay. Real fine. We're going to think about it.

CC

Jim, the S-IVB out there in front of us vent - at least I presume it's the S-IVB out there in front of us venting.

CC

Roger.

CC

Skylab Houston we're about to have LOS here at Newfoundland. We'll have a short break and see you at Madrid.

SC

Okay, sir.

SC

And be advised we're loading the DAP now with your weight constraints.

CC

Okay.

PAO

Skylab Control Houston at 1 hour 50 minutes ground elapsed time. We've had loss of signal with Newfoundland. Next station to acquire will be Madrid some 2-1/2 minutes from this time. Skylab is presently in an orbit of 194.1 nautical miles by 83.6 nautical miles. The velocity now reading 25,795 feet per second. Continuing to monitor at 1 hour 50 minutes this is Skylab Control Houston.

END OF TAPE

SL-II MC-17/1
Time: 09:51 a.m. CDT, 1:51:00 GET
5/25/73

CC Skylab, Houston through Madrid for
5-1/2 minutes. How do you read?
SC Hi, Houston. Read you loud and clear.
Standing by for your up-link.

CC Roger. Stand by.
SC Okay.
CC Roger, Pete. Go ahead, take ... And
as soon as we have good data, we'll go ahead and up-link.
SC You're in ... P20.
CC Okay, and I've got an NCl final pad
for you. Page 1-5.

SC I'm ready to copy.
CC Okay. 002 23 3735 plus 2063 plus
four balls, plus four balls, 180 009 002 1930 0009. All the
rest of the remarks are the same as the preliminary pad.
Go ahead.

SC 002233735 plus 206.3 plus all balls,
plus all balls, 180 009 002 19300009 and (garble) and
the rest of the remarks are the same.

CC Roger. That's correct.
PAO Skylab Control Houston. One hour 55
minutes ground elapsed time. That final NCCl pad gives us
now a burn time of 2 hours 23 minutes 37 seconds, with the
DELTA-V on the burn of 206.2 feet per second. Resulting
orbit 200.8 nautical miles by 194.7 nautical miles. This
burn time is 9 seconds.

CC Skylab, Houston. We're ready to terminate
the waste water dump, and we believe that the second O2 purge
has been accomplished. Wonder if you could verify that for
us?

SC Yes, sir, it's been accomplished.

CC Roger. Thank you much.

PAO Skylab Control, Houston. One hour
56 minutes ground elapsed time. Flight Director Phil Shaffer
has advised his flight control team he'll be standing by shortly
for a GO for NCl. This phasing maneuver done outside of
station contact presently scheduled for 2 hours 23 minutes
37.4 seconds.

CC ... Houston. Your vectors are in, and
you can go back to block.

SC Roger. Back to block and standing by for
the old NCl.

CC Very good.

CC Skylab, Houston. We're about 1 minute
from LOS here at Madrid. We're gonna see you at ARIA 2
plus 27. The bird looks as good to us down here as it does
to you. You're GO for NCl.

SL-II MC-17/2

Time: 09:51 a.m. CDT, 1:51:00 GET
5/25/73

SC Roger. Go for NCl, and that's super.
CC Roger.
CC And Skylab; Houston. We've taken a
look; you have a concurrence with us. You're GO to reservice
a coolant loop any time you want.
SC Okay, thank you, Dick.
CC Roger.
PAO Skylab Control, Houston, at 1 hour
58 minutes ground elapsed time. We've had loss of signal
with Madrid. During that pass the crew aboard Skylab, Pete
Conrad, Paul Weitz, Joe Kerwin, were given a GO for the NCl
maneuver. We will next acquire the Skylab at 2 hours 27 minutes
ground elapsed time. This via ARIA aircraft. At 1 hour
59 minutes ground elapsed time, this is the Skylab Control,
Houston.

END OF TAPE

SL-11 MC-18/1

Time: 10:15 a.m. CDT, 2:15:00 GET
5/25/73

PAO Skylab Control, Houston at 2 hours, 15 minutes ground elapsed time since the lift-off of the Skylab crew from Kennedy Launch Center. We presently show the orbital workshop, which has been in orbit for some 10 days with a present orbit of 239.7 nautical miles by 234.3 nautical miles. Flight Director Don Puddy referred to the orbital workshop status as OPS nominal. The workshop is presently pitched up 47 degrees, this being 2 degrees up from the 45-degree baseline. He advises that the workshop will be held in this altitude - in this attitude until the fly around, deleting an earlier plan to maneuver the vehicle to the solar inertial attitude. The workshop pressure presently reads .35. The plan is to continue to take this pressure down to .1, then to start the repressurization to 5 PSI. The suit Umbilical system temperature, presently reads 34.5 degrees, this being a slight rise. The feeling is that it occurred because of the pitchup maneuver, which took place last night. We're at 2 hours, 17 minutes ground elapsed time, and referring back to an earlier conversation, the big blivet referred to, which was in front of Science Pilot, Joe Kerwin on the command module, is the canister which houses the parasol. We're 2 hours, 18 minutes ground elapsed time and this is Skylab Control, Houston.

END OF TAPE

SL-11 MC-19/1
Time: 10:26 a.m. CDT, 2:26:00 GET
5/25/73

PAO Skylab Control Houston at 2 hours
27 minutes ground elapsed time. We're less than 30 seconds
away now from time of predicted acquisition. Communication
acquisition through an ARIA aircraft with Skylab. However,
we may or maynot be able to acquire voice comm with the crew
on this - this contact. The ARIA aircraft has had an antenna
pointing problem. However, we'll standby and continue to monitor.
Meanwhile the NCl maneuver should have been accomplished. Our
next station contact is with Honeysuckle. This some 8 minutes
40 seconds from this time. We're at 2 hours 28 minutes standing
by, this is Skylab Control Houston.

CC Skylab Houston through ARIA, how do you
read?

CC Skylab, Houston through ARIA, for the
next for the next 9 minutes, how do you read?

CC Skylab, Houston, through ARIA, how do
you read?

PAO CAP COM Dick Truly trying to place a call
to Skylab through ARIA, as yet unsuccessful. We're at 2 hours,
29 minutes ground elapsed time, continuing to monitor.

CC Skylab, Houston, through ARIA, how do
you read?

CC Skylab, Houston, through ARIA, how do
you read?

SC Hello, Houston. Read you loud and clear,
how me?

CC Roger, I read you kind of weak and we've
got a lot of background static, Pete, but I can hear you, go
ahead.

SC Okay, Houston, we had a nominal burn on
time, Delta-VC read minus 15.1, the burn attitude was what we
trimmed at (garble) minus 0.2, 85 plus 0.2 reaching plus 0.1,
do you read that?

CC Roger, I copied the Delta-VC minus 15.1
and your trims on attitude were minus .2 plus .4, plus .1,
that right?

SC (Garble) Inaudible.

CC Roger, I copy, plus .2 for the first one.

SC (garble)

CC See if I get them right this time, here,
Pete, minus .2, plus .2, and plus .1.

SC That's it, you're coming in a little
better, we just completed a P52, do you want that?

CC Affirmative, go ahead.

CC (Inaudible) (garble), how do you read,
Houston?

SL-II MC-19/2

Time: 10:26 a.m. CDT, 2:26:00 GET
5/25/73

CC Skylab, Houston. I can hear you, but I've got a lot of background static, but I can copy you, go ahead.

SC A P-52 option (garble) 25.33, 105 all balls plus 4 balls 9, plus 3 balls 66, plus 3 balls 50, the time 2 thru 9 00.

CC CDR, Houston, I got everything but the time. Say the time again, please.

SC 2 plus 29 plus 00.

CC Roger, copied it all, thank you.

SC (garble) Houston.

CC Roger, Pete. You know a couple days ago, I told you that we were going to be passing up sunrise sunset times for you for when (garble) flyaround in SEVA times, be advised the sunrise, sunsets, that you see in the launch check list of the flight plan, are accurate today. If you don't want them to the nearest second, I'll just let it go at that, over.

SC That's okay, just let them go, we'll ask you - -

CC Okay, real fine. We've still got about 4 minutes left in this pass and I'm standing by.

PAO Skylab Control, Houston, at 2 hours, 34 minutes ground elapsed time, a very ragged voice communications through the ARIA aircraft, but spacecraft commander Pete Conrad confirms the NC-1 maneuver was a nominal burn on time. We're at 2 hours, 34 minutes, we'll continue to monitor, this is Skylab Control, Houston.

END OF TAPE

SL-II MC20/1
Time: 10:36 a.m. CDT, 00:02:35 GMT
5/25/73

SC (Inaudible)
CC Skylab, Houston. We're about 30 seconds
from LOS at ARIA. We're going to see you at Goldstone at
3:04.

SC Okay, Houston. It appears like we're on
the time line. It's because we do not have an ... we have 4 hours
to get organized and we're in very good shape, and we are in the
contest of getting ready to eat.

CC Roger. Copy. Thank you.
PAO Skylab Control, Houston at 2 hours 38 minutes
ground elapsed time. We've had loss of signal now - loss of
voice communications through ARIA. The next station to acquire
the Skylab will be Goldstone some 26 minutes from this time.
Just prior to the ARIA pass, Skylab did perform the NCI maneuver
successfully. This, Commander Pete Conrad reported, was a
nominal burn on time. We're at 2 hours 39 minutes. This is
Skylab Control, Houston.

END OF TAPE

SL-II MC21/1

Time: 11:03 a.m. CDT, 00:03:03 GMT

5/25/73

PAO Skylab Control, Houston, at 3 hours 3 minutes ground elapsed time, less than a minute away now from acquisition over the States with Skylab on its second revolution. We presently show an orbit for Skylab of 201.4 nautical miles by 194.6 nautical miles. Velocity now reads 25,220 feet per second. Among the items to be done during the stateside pass will be the - providing a preliminary pad for the NC2 maneuver. This will be passed along by CAP COM Dick Truly. The burn time is currently scheduled for 4 hours 41 minutes 19 seconds with a DELTA-V of 43.7 feet per second and a burn duration of 2 seconds. Currently, Skylab is trailing the orbital workshop by approximately 600 miles. This should be down to about 250 nautical miles.

CC GARBLE for the next 9 minutes.

SC Roger, Houston. How do you read?

CC I read you loud, Pete. There was a squeal in the back ground. Now try again, please.

SC The squeal in the background is the PLT GARBLE. He tried to eat his ... along with his sandwich, and it was too hard for him to get down. We got our fuel cell purge off on time, and we are enjoying, in fact, a very nice meal.

CC Very good.

SC Most of our stowage is reconfigured. We have a little bit more to do, but I figure we have more than adequate time, and we'll be in very good shape. I guess we have not got the TV out, because we left TV cameras - we had to do so much shuffling down below to get into the lockers that we just didn't get that out. Is there another station later on where you might get a peek at it, because that's the next thing we're going to do is rig cameras and TV after lunch.

CC Okay, Pete. Why don't you just let us know when you get it set up, and we'll set up a later pass if we have the time. And also, Pete, I've got an NC2 preliminary pad page 1-9, if you have time to copy sometime during this pass. We've still got 7 minutes.

SC I'm ready to copy; go ahead.

CC Okay. 004, 41, 1927, plus 0437, plus 4 balls, 180, 189, 009, 0303, 0002. And I'm told I read NOUN 22 yaw incorrectly. It should be 001. Over.

SC Okay. 004, 41, 1927, plus 043.7, all balls, 180, 189, 001, 0303, 0002.

CC That's affirm. The weight is 30225, pitch trim plus 108, yaw trim plus 026. And this will be a single bank burn.

SC Okay. The weight 30225, plus 1.08, and for the pitch trim and the yaw trim, plus 026.

CC That's affirm.

SL-II MC21/2
Time: 11:03 a.m. CDT, 00:03:03 GET
5/25/73

CC And CDR; Houston. When you're through with the DAP work, would you give us ACCEPT. We'd like to update PIPA/BIAS.

SC You've got ACCEPT. It's all yours at P20.

CC Thank you. And also, Pete, we've got about 5 more minutes left in this pass. We'd like to - since we've had so many changes the last few days, there is a couple or three remarks we'd like to visit with you about, about the upcoming remainder of the rendezvous.

SC Go ahead.

CC Okay. First one. Right after NCC, we think there'll be - you're in a good attitude to go ahead and try to acquire VHF lock-on - that's at about 5 plus 30 to get a VHF range and system check, no marks. And be advised you probably will lose the lock-on sometime after 5 plus 40.

SC Okay, Dick, I've got that noted in here.

CC Okay. Good. The next one is, and I think you're already aware of this, take sextant marks pre-NSR, whenever the SWS is visible, and our trajectory data predicts that it should be visible until at least NCC plus 12 minutes.

SC Wait a minute. It'll be visible from the NCC burn for 12 minutes afterwards. Is that what you're saying for NSR?

CC That's affirm, Pete.

SC Okay.

CC And the last one, Pete, is overnight we've done some more thinking, and we've done some computer runs about the VHF patterns on the SWS. And it turns out that you're going to get better VHF during the terminal phase if we just leave the vehicle in EGIL special attitude rather than going to solar inertial. And since that helps us out so much up at the SWS, that's what we intend to do. The SWS will be and it will remain in EGIL special attitude, where it is now, until about 7 plus 36, which is over Guam, and then we'll roll left about 28 degrees to the fly-around attitude, which will put both wing routes in the Sun. And you will have VHF and sextant available from TPI right on down to station keeping. Over.

SC Okay. So for the fly-around we'll be roll left 28 and pitch to whatever EGIL's pitch attitude is these days. What, 50 degrees?

CC It's about 25 degrees degrees (static) (inaudible).

CC And Skylab; Houston. Do you still read me on VHF through Goldstone?

SC That's affirm.

SL-II MC21/3

Time: 11:03 a.m. CDT, 00:03:03 GET
5/25/73

CC Okay, we cut out for a second there. The current EGIL special pitch attitude is about 45 degrees, and you are correct. By the time you get there and for the fly-around it will be in the attitude we talked about which is roll. So both wing routes are in the Sun and pitched up about 45 degrees. Also we need a potable tank inlet valve closed.

PAO This is CAP COM Dick Truly talking with spacecraft commander Pete Conrad during this.

CC ... closed.

SC Thank you.

PAO During the stateside pass we now show 3 hours 12 minutes since lift-off.

SC Houston, CDR.

CC Go ahead.

SC Rusty down there?

CC He's listening right here.

SC Tell him the butterscotch sure is good today on the lunch.

CC Was it a hard swell on it?

SC Nope, these are straight 5 psi GARBLE.

CC Roger that.

PAO The "Rusty" referred to by Spacecraft Commander Pete Conrad is Rusty Schweickart, the backup commander for Skylab. We're at 3 hours 13 minutes and continuing to monitor. This is Skylab Control, Houston.

PAO Skylab Control, Houston, 3 hours 14 minutes ground elapsed time. We've had loss of signal. Our next station to acquire, in approximately 2 minutes, will be Newfoundland. We now show Skylab in an orbit of 201.4 nautical miles by 194.5 nautical miles. Velocity now reads 25,212 feet per second. At the time of the NC2 maneuver, Skylab should be trailing the workshop by approximately 250 nautical miles. We're at 3 hours 15 minutes. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-22/1

Time: 11:15 a.m. CDT, 3:15:00 GMT
5/25/73

PAO We're at 3 hours 15 minutes. This
is Skylab Control Houston.
CC Skylab, Houston. We're AOS at Bermuda
for the next 9 minutes.
SC Roger, Houston.
CC And we're standing by.
SC Say, Houston, Skylab.
CC Go ahead, CDR.
SC Where about are we right now. What
did we just pass over?
CC Well you're just pass - you're just
to the east of the Great Lakes in above 'em. You're right at
about 50 degrees north latitude.
SC Oh, I thought we had passed over some-
thing that had a lot of ice in it. There was snow on the
ground, we were trying to figure out where we were.
CC Roger. I think it's called Canada.
SC Well it's a (garble) for me. I never
been this far north before.
CC Rog.
CC And Skylab, Houston, we still have about
8 minutes left in this pass. If you guys have the launch
checklist still out, I got two or three corrections back on
the flight plan pages that are L-echo. Over.
SC Okay, Houston. He's handing it to
me right now.
CC Okay, standing by.
SC Okay, Houston. How do you read Skylab
now?
CC Read you loud and clear now.
SC Okay, at SEVA L-echo.
CC Okay, Pete, you noticed in there where
it says - it lists performed class and panel configuration
and has a bunch of exceptions.
SC Yeah.
CC I'd like to add two exceptions to that
list. First is on panel 325, cabin pressure relief valve,
two of them to close. We want - we do not want to accomplish
that. And the second one is all the items listed for panel
375. Over.
SC Okay, perform the (garble) check 3-1
through 3-9 except. And add to that list 325 cabin press
relief valves closed. Do not do that. And do not reconfigure
panel 375.
CC That's affirm and I have one last one
that we would like you to do. This is an additional check

SL-II MC-22/2

Time: 11:15 a.m. CDT, 3:15:00 GET
5/25/73

we would like for you to accomplish on 399. The OX/GLYCOL
EVAP in temperature valve to max. And that's listed on
page S/310 of the systems checklist.

SC (garble) It's the same valve. Is that
correct?

CC You were cut out for a second. Say
again, please.

SC You wanted to put the valve when we
get to it, to MAX and it's now in VENT. Is that correct?

CC It says I think in the checklist Pete,
as required. And we want it in MAX. And also be advised,
all these changes are for this presleep period just for this
evening.

SC Understand.

CC Okay, real fine. We have about 4 minutes
left in this pass. Standing by.

CC And CDR, Houston. In event you have
time to get the TV out prior to Honeysuckle at 4 plus 10, that's
where we think we'd like to stick it in the flight plan.

SC Stick what in the flight plan? TV?

CC That little TV check that we were - had
set up in there.

SC (garble)

CC Okay, real fine.

PAO Skylab Control Houston, 3 hours 23
minutes now into the mission. We've got a bit over 3 minutes
remaining on this pass. That was the CAP COM, Dick Truly,
going over checklist changes with spacecraft commander Pete
Conrad. We now show Skylab at an altitude of 201 nautical
miles by 194.4 nautical miles in orbit. Velocity now reaching
25,225 feet per second.

CC Skylab, Houston. We're about 1 minute
from LOS. We'll see you at Canary at - after a very short
break.

SC Okay, Houston. Roger, Roger.

END OF TAPE

SL-1Y MC-23/1

Time: 11:27 a.m. CDT, 3:26 GET
5/25/73

PAO Skylab Control, Houston; 3 hours,
27 minutes ground elapsed time. We now have acquisition with
Canary - -

PAO Skylab, now, on its third revolution.
The orbit, presently, reading 201 nautical miles by 194.4
nautical miles. Present altitude 199.3 nautical miles for
Skylab.

CC Skylab, Houston. We're AOS through
Canary for the next 7 minutes.

SC Okay, Houston, and do want ACCEPT?

CC Stand by one.

CC Skylab, Houston. We request ACCEPT and
we'll uplink the OWS vector and we'll catch the CSM vector
at Honeysuckle.

SC Okay. You've got ACCEPT.

CC And ha - CDR, Houston. The Honeysuckle
pass is about 4 plus 10 and we'd like you either in P00 or
P-20 so we can get that uplink in.

SC Okay. We'll be in P00 or P-20.

CC Rog.

SC We will have some TV for you there.

CC Very good.

CC Skylab, Houston. You've got the uplink
and you can go back to BLOCK.

SC Very good.

CC CDR, Houston. Be advised, looking at
the data, we expect that it's possible some time in the next
few minutes, you might get a caution and warning on high
O2 flow, due to the purge configuration. But, there's no
problem with it. We're about 1 minute from LOS at Honeysuckle
and we'll be there at 4 plus 10.

SC Okay.

CC And you're presently starting a very
long pass over Africa.

SC Okay.

PAO Skylab Control; 3 hours, 34 minutes,
ground elapsed time. The purge configuration referred to was
the waste management vent-valve being opened. We're less
than 30 seconds away, now, from loss of signal on this
Canary pass.

PAO Skylab Control, Houston; 3 hours, 35 min-
utes ground elapsed time. We've had loss of signal, now, with
Canary. The next station to acquire will be Honeysuckle, this
some 27-1/2 minutes away.

END OF TAPE

SL-II MC-24/1

Time: 12:09 p.m. CDT, 4:08 GET
5/25/73

PAO Skylab Control, Houston, at 4 hours 9 minutes ground elapsed time coming up now on acquisition with Honeysuckle. Skylab presently in an orbit of 201.3 nautical miles by 194.6 nautical miles. During this pass we expect the CAP COM Dick Truly to pass along to the crew of Skylab a series of maneuver pads. He will pass along a final NC-2 pad. The burn to occur at 4 hours and 41 minutes 19.2 seconds with a DELTA-V of 44.5 feet per second. Burn duration 2 seconds resulting orbit 220 nautical miles by 199.9 nautical miles. He will also pass along a preliminary corrective combination maneuver pad. This event occurring at 5 hours 27 minutes 26 seconds of the preliminary pad with a DELTA-V of 39.4 feet per second. Burn time 2 seconds. Resulting orbit 223.5 nautical miles by 220.1 nautical mile. Truly will also pass along a preliminary NSR maneuver pad. This event having a take time - time of ignition of 6 hours 4 minutes 26 seconds. DELTA-V of 17.8 feet per second. Burn time 1 second.

CC Skylab, Houston. We're AOS at Honeysuckle for the next 8 minutes.

PAO Standing by now for voice contact with Skylab.

CC Skylab, Houston we're AOS at Honeysuckle for the next 7 minutes.

CT Honeysuckle Com Tech, Houston, net one.

CC Honeysuckle contact.

CC Roger, you're loud and clear.

CC Skylab, Houston we're AOS at Honeysuckle for the next 6-1/2 minutes.

CC And Skylab, Houston, we need ACCEPT.

PAO Skylab Control Houston. Four hours 13 minutes ground elapsed time. No voice contact with the crew aboard Skylab. However, we are receiving telemetry data in the Mission Control Center.

CC Skylab, Houston at Honeysuckle for 5-1/2 minutes.

SC Roger, Skylab. We're in P20 and ready to go to ACCEPT. And I have P52 data for you.

CC Roger, Pete. We do need ACCEPT but we already have copied the NOUN 93s off our data. And I've got three pads for you.

SC Okay. I'm ready to copy.

CC Roger. First is final pad for NC2

on page 1-9.

SC Go ahead.

SL-II MC-24/3

Time: 12:09 p.m. CDT, 4:08 GET
5/25/73

18 minutes ground elapsed time. During that Honeysuckle pass the CAP COM Dick Truly passed along a series of maneuver pads that will be coming up as a sequence to the rendezvous and docking with the workshop. The INCO flight controller reported that the television looked good during the test over Honeysuckle. We're at 4 hours 20 minutes ground elapsed time and this is Skylab Control, Houston.

END OF TAPE

SL-11 MC25/1

Time: 12:29 p.m. CDT, 4:28 GET

5/25/73

PAO Skylab Control Houston it's 4 hours 29 minutes now since time of lift-off. We presently show the command and service module with Conrad, Weitz, Kerwin on the third revolution. Less than a minute away now from acquisition by Hawaii. Present orbital parameters read 201.3 nautical miles by 194.6 nautical miles. Meanwhile the orbital workshop in it's 159th revolution has just been acquired by Hawaii. Orbital parameter is 240 nautical miles by 234 nautical miles. Hawaii now has acquisition on Skylab we'll standby.

CC Skylab, Houston. We're AOS at Hawaii for six minutes.

CC Skylab, Houston. We're AOS at Hawaii for the next six minutes.

PAO Skylab Control, Houston, 4 hours 33 minutes ground elapsed time. Apparently experiencing some station problems, ground based problems over Hawaii at this time. We're at 4 hours 33 minutes continuing to monitor. This is Skylab Control.

CC Skylab Houston we're AOS in Hawaii through VHF voice for the next 3-1/2 minutes.

SC GARBLE VHF Houston.

CC I heard you answer me Pete but I didn't understand it. Say again, please.

SC I said you've got the VHF.

CC That's affirm. We got an S-band problem at the Hawaii tracking station.

PAO Skylab Control, Houston; 4 hours 36 minutes using VHF for voice comm now. Still not receiving TM data in the control center because of the S-band receiver problem at the Hawaii tracking station. However, Skylab still GO for the burn. Now scheduled for 4 hours 41 minutes 19 seconds.

CC Skylab Houston we're about 1 minute from LOS at Hawaii. We have not seen S-band data here but when we saw you at Honeysuckle you were - looked real good. You're GO for the burn and we're going to see you at Goldstone at 4 plus 41.

SC Okay that's just about - burn time and we're just standing by to make the burn.

CC Very good, Pete. And when you get squared away after the burn I've got a little note here that I wanted to talk to you about about something later on.

END OF TAPE

PAID 10/21

SL-II MC-26/1
Time: 12:39 p.m. CDT, 00:04:38 GET
5/25/73

PAO Skylab Control, Houston; 4 hours 40 minutes ground elapsed time. Standing by, now, for acquisition with Skylab through Goldstone. Four hours 41 minutes; continuing to monitor. This is Skylab Control, Houston.

PAO Skylab Control, Houston; 4 hours 43 minutes, ground elapsed time. Goldstone has acquired the Skylab. However, we presently have very low signal strength. We'll stand by and continue to monitor.

PAO Skylab Control, Houston; 4 hours 45 minutes, ground elapsed time. It appears likely that an S-Band antenna problem is also the case at Goldstone. Not presently receiving telemetry data on our displays here, in Mission Control. Standing by, continuing to monitor, this is Skylab Control, Houston.

CC Skylab, Houston through VHF at Goldstone.
How do you read?

CC Skylab, Houston through Goldstone VHF.
How do you read?

SC Read you loud and clear, Houston. How me?
CC I can read you, Pete. We're having
antenna problems on the ground. How'd the burn go?

SC Okay, Richard. I find that I ... it a little bit. (garble) trouble (garble). (Garble) about 85. But, the EMS read minus 11.0. And I called up NOUN 85 ... and it read plus 1.6 feet per second, (garble) minus 0.2. Did you read that, Houston?

CC Pete, I copied EMS minus 11.0 and NOUN 85 plus 1.6 and an out-of-plane of minus 0.2, and that's all I copy.

SC No, it wasn't an out-of-plane (static) Joe probed a Noun 85. I didn't see him do it, but (garble) on top of that, so I write down our residual. After I got to a flashing 37 (garble) I called up 1685, and I read the following numbers. And I don't know whether they mean anything or not. (garble) 1.6, (garble) is out of plane at minus .2 (static)

CC Skylab, Houston. We copied that, and if you read me, we're going to have a Newfoundland AOS at about 4 plus 51.

PAO Skylab Control, Houston; 4 hours 48 minutes - We've had loss of signal, now, with Goldstone, unable to acquire S-Band data on this pass. However, CAP COM Dick Truly has spoke with the Spacecraft Commander Pete Conrad via VHF. We'll stand by, continue to monitor. The next station to acquire Skylab is Newfoundland. We're at 4 hours 49 minutes. This is Skylab Control, Houston.

END OF TAPE

SL-II MC27/1

Time: 12:52 p.m. CDT, 00:04:51 GET

5/25/73

CC Skylab, Houston. We're AOS at Bermuda for the next 7 minutes.

SC (Inaudible)

PAO Skylab Control, Houston; 4 hours 54 minutes ground elapsed time. We've acquired the Skylab spacecraft through Bermuda Tracking.

CC Skylab, Houston. How do you read through Bermuda?

SC We read you loud and clear; how us?

CC Hey, loud and clear. That's good. We've been having problems here. Getting back to the GARBLE, Pete, we didn't quite understand about whether you think you underburned and, if so, by how much?

SC Yeah. What happened was that something swung off the instrument panel and there was burning and Joe went ... proceed and shut down so that we were at a 16 85. I did not see him do that, and I thought we were wandering for the burn attitude; so I reached up and controlled myself without either one of us seeing the residuals on the DSKY. And that immediately stuck us into a flashing 37 with P40 at the window. At that point I called out 1685 and looked at it, and it said plus 1.6, nothing in Y, and I forget the other number I gave you a minus 0.2. So I think I underburned by 1.6 feet per second.

CC Roger, Pete. Now we do have your vector on the ground through Bermuda, and you did burn about 1.6 underburn, and it's no problem.

SC Okay.

SC It looks like a short burn logic in the CMS, which wasn't supposed to be that way in the spacecraft, is that way in the spacecraft, huh?

CC Roger. Maybe so.

SC Well, we'll find out on the next one, because that's an even quicker one.

CC Roger.

SC Joe's got A marked. It's been swelling up since about MARK 4; so I think we're in real good shape.

CC And, Pete, we've still got you for about 3 minutes. I've got a couple of things here I'd like to talk to you about, if you have the time. If you don't, we're coming up on a long Canary and Ascension pass.

SC Go ahead.

CC Okay, subject is the maneuver that we may or may not need to do for the lining on wing one when you get to the fly-around. If possible, we'd like to know, prior to you going LOS at Guam, if you are going to need this maneuver. And if you can't tell us at Guam, you can tell us as soon as you get

SL-II MC27/2

Time: 12:52 p.m. CDT, 00:04:51 GET

5/25/73

to Goldstone. If the answer is yes, that you do want to roll the wing more into the sunlight, we'd like to accomplish that maneuver during the stateside AOS. This is while you're flying around, and the maneuver time we propose to set in is 5 minutes. The reason for this is that this will result in a situation where no SWS maneuvering will be required while the CSM is soft docked at the SWS, which will make us feel better about the vehicle dynamics during the SEVA prep. And we - since there are some double failure combinations which would make a soft dock roll by the SWS. Band S. Over.

SC I give up. You guys tell me what attitude you would like to keep it in, and if I can't flirt my way around it, I'll call you and tell you when I get there.

CC Wait a minute, Pete. The bird is going to be, when you get to it, the bird is going to be in the attitude we talked about, which has both wing routes in the sunlight. The question is, is that good enough for the SEVA? And we hope that it is. If it is not, then we aren't going to roll it during the stateside pass. Over.

SC Well, it seems to me that I already said I didn't see any reason why that wouldn't be all right for the SEVA about a week ago. So if you want to leave her roll 28 20 and pitch to the EGIL special, whatever that comes out to be, that's okay with me.

CC Rog. We're together, Pete. We intend to leave it at 28 20 unless you tell us that - in after looking at it, that that is just not enough lighting. We've got about 50 seconds left until LOS here in Bermuda, and I'll see you at Canary.

SC Yeah. And I also understand your preference is if we thought we had enough lighting, you'd like to go back to the EGIL special, zero roll and 50 pitch, right?

CC No, sir. We'd just soon stay with both wings in the sunlight, and it'll - the vehicle would stay then as you will initially see it when you start to fly around - you know, with both wing routes in the sunlight.

SC Okay.

CC Very good, and we'll see you at Canary.

SC Bye.

PAO Skylab Control, Houston; 5 hours ground elapsed time. That was Skylab Commander Pete Conrad signing off in his conversation with CAP COM Dick Truly. Standing by now for acquisition over Canary.

END OF TAPE

SL-II MC-28/1
Time: 13:02 CDT, 5:01 GET
5/25/73

PAO Skylab Control, Houston; 5 hours, 1 minute ground elapsed time. Early tracking data shows a current orbit for Skylab, of 220 nautical miles by 200.1 nautical miles.

PAO Skylab's current velocity now reading 25,214 feet per second.

CC Skylab, Houston. We're AOS Canary for 14 minutes.

SC Roger, Houston. We're standing by for the final pad.

CC Roger. I'll have it in a minute, and I do have one other thing I'd like to talk to you about, if you've got time.

SC Go ahead.

CC Okay, Pete. This concerns your CSM control mode configuration during the SEVA. We suggest, when Paul is outside, that you inhibit thruster A-4, as well, as A-3 for the SEVA. The reason is, if we don't and had a failed thruster on of A-4, we'd end up with a plus-X translation. The pitch control is fine with only Charlie-3 and Charlie-4 on. Jerry Carr verified it this morning over in the CMS and the control works good. You might think about that one. To summarize that, that's ah - we want to inhibit A-3 and A-4.

SC Understand.

CC And one more thing, Pete. It's in the checklist and on - in the SEVA section in back of the launch checklist on page 1-1.

SC Yeah, we know where it is.

CC Rog.

SC Hey, Houston, Skylab.

CC Go ahead.

SC How long do we have to keep running this 02 vent?

CC Stand by, one.

CC CDR, Houston. We want to leave the 02 vent going until just prior to the SEVA. And one thing, I forgot to tell you, I had written down here, was we've turned on the switch tracking lights.

SC Okay. Could we try VHF now, or you think we wouldn't get it until right after NCC?

CC I think you might as well wait, Pete. Because, of the attitudes and the way they are, I don't think you'd have any ... here, and I think you might as well wait until right after NCC.

SC Okay.

CC Roger.

SL-11 MC-28/2

Time: 13:02 CDT, 5:01 GET

5/25/73

PAO
11 minutes, now.

Skylab Control, Houston, at 5 hours,

PAO
We presently show an orbit of 219.1 nautical miles.

Skylab now under acquisition by Ascension.

CC
minutes left. I've got a NCC final pad for you on page 1-11.

Skylab, Houston. We've still got 6-1/2
Go ahead.

SC
CC
176 031 011 0264, go ahead.

005 27 2630 plus 0363 plus 0065, minus 0150,

SC
176 031 011 026.4.

005 27 2630 plus 0363, plus 0065, minus 0150,

CC
got an NSR pad for you, if you're ready to copy.

That's good readback, Pete, and now, I've
Go ahead.

SC
CC
010, and stand by on the DELTA-V counter, please.

Plus 0210, plus 0043, minus 0175 173 265

CC
SC
173 265 010 014.2.

The DELTA-VC, Pete, is 0142, go ahead.

CC
got 4 minutes left in the pass, and I'm standing by.

Okay. Plus 0210, plus 0043, minus 0175

SC
in about 2 minutes.

Rog. Pete. Good readback. We've still

CC
Okay. We'll be doing a final count, here

Okay.

END OF TAPE

SL-II MC29/1

Time: 13:14 p.m. CDT, 5:13 GET
5/25/73

PAO Skylab Control, Houston; 5 hours 16 minutes ground elapsed time. Flight Director Phil Shaffer taking a status check now for the NCC maneuver.

CC Skylab, Houston. We've looked at the bird. You're GO for the NCC burn.

SC Roger. Houston.

CC And Skylab; we've still got about 1-1/2 minute left in this pass. We're going to have about a three minute break and then we're going to see you through an ARIA aircraft sitting on the ground at Capetown.

SC Okay.

PAO Skylab Control, Houston, at 5 hours 18 minutes ground elapsed time. We've had loss of signal with Skylab. We now show an orbit of 219.1 nautical miles by 200 nautical miles. The two maneuver pads being passed up, NCC the time of ignition, 5 hours 27 minutes 26 seconds. DELTA-V 39.8 feet per second. Burn time 2 seconds. The NSR pad, time of ignition 6 hours 4 minutes 26 seconds. The DELTA-V 27.7 feet per second with a burn time of 1.1 second. Now these numbers slightly larger than those passed along in preliminary pad because of the slight underburn in the NC2 maneuver. We'll stand by, continue to monitor. This is Skylab Control, Houston.

SC Okay GARBLE you're going out on GARBLE okay.

CC ARIA GARBLE and GARBLE standby.

SC Roger.

SC Okay GARBLE.

CC Skylab, Houston; how do you read?

CC Skylab Houston through ARIA how do you read?

SC Inaudible.

END OF TAPE

SL-II MC-30/1

Time: 1:30 p.m. CDT, 00:05:30 GET
5/25/73

PAO Skyeb Control, Houston. Five hours
30 minutes since lift-off. We've just had loss of signal
with the ARIA aircraft stationed on the ground at Cape Town.
Next to acquire will be Carnarvon - this at some 13 minutes
25 seconds from this time.

END OF TAPE

SL-II NC-31/1

Time: 13:42 p.m. CDT, 5:42 GET
5/25/73

PAO Skylab Control Houston at 5 hours
43 minutes ground elapsed time. Less than 1 minute away now
from Carnarvon acquisition. We'll keep the line open and
continue to monitor.

PAO We have AOS Carnarvon.

CC Skylab, Houston, through Carnarvon.

SC Hello, Houston. Be advised that we have
VHF ranging. We've picked it up right after NCC at
117.08 miles. We still have a lot, and the SPP is able to
track the tracking lights although they are quite dim. So
I'd suspect that's attitude. Is that correct?

CC Roger, that is affirm Pete and that's
good news on the VHF.

SC The - we had a good NCC burn with a
minus 12.9 are the residuals. For DELTA-VC the burn was on
time. The burn was trimmed at the burn attitude. We had
0 in X, minus 0.2 in Y, and zero in Z. And be advised it
does leave a large residual. It would begin about 1.6 foot
... that we had to take out.

CC Roger copy Pete. Thank you.

SC And our first cut through the P34
recycle showed very good agreement with the ground solution
NSR.

CC Roger, copy.

SC And be advised we did go with the
onboard which was a little different from the ground. Let
me read you NOUN 81. (Garble) CC is plus 0 375 plus 0060
minus 132.

CC Roger. Repeat, copy.

SC And be advised that we have a match
para solution which we will burn that is plus 20.9. Of
course I don't know the outer plane yet, and minus 20.7.

CC Roger, copy.

PAO Skylab Control Houston. Five hours
47 minutes ground elapsed time. Spacecraft commander Pete
Conrad talking with the CAP COM Dick Truey reporting a good
NCC burn. We presently show an orbit for Skylab, of 224.8
nautical miles by 216.8 nautical miles. This is Skylab
Control, Houston.

CC Skylab, Houston. We're ready to swap
quad Charlie to the PSM.

SC Roger Charlie to the PSM.

CC That's fine.

PAO Skylab Control, Houston, 5 hours 49
minutes; presently under acquisition by Honeysuckle.

PAO Skylab Control, Houston, 5 minutes -
5 hours 51 minutes of status check in mission control GO/NO GO
for NSR.

SL-II MC-31/2

Time: 13:42 p.m. CDT, 5:42 GET
5/25/73

CC Skylab, Houston, we're GO for the
for the next NRS burn.

SC Roger, Houston. We're GO here.

CC Very good.

PAO That burn scheduled to occur at 6 hours
4 minutes 26 seconds ground elapsed time. We're at 5 hours
52 minutes now.

PAO Skylab Control Houston, 5 hours 54
minutes ground elapsed time. We've had loss of signal now
with Honeysuckle. The next station to acquire will be
Hawaii, some 12 minutes 45 seconds from this time. We presently
show Skylab with an orbit of 225 nautical miles by 217.3
nautical miles and some 90 watt miles away now from the
Saturn workshop. We're at 5 hours 55 minutes ground elapsed
time. This is Skylab Control Houston.

END OF TAPE

SL-TI RC32/1

Time: 2:06 p.m. CDT, 00:06:06 GET

5/25/73

PAO Skylab Control, Houston; 6 hours 6 minutes ground elapsed time, less than 1 minute away now from Hawaii acquisition with Skylab. We'll keep the line open and continue to monitor.

CC Skylab, Houston. We're --

SC Hello, Houston.

CC Hello there, CDR. We're in Hawaii. How do you read?

SC Roger. Read you loud and clear. The burn was on time. It was plus 0.1, minus 0.1, minus .1. EMS read by this good 0.9 and I gave - let me read you the NOUN 81. It was plus 20.9, plus 4.4, and minus 14.7.

CC Roger. Got that.

SC Okay. We're in the process of maneuvering heads up.

CC Roger, Pete. Sounds real good.

PAO Skylab Control, Houston; 6 hours 9 minutes. We now show Skylab with an orbit of 229.3 nautical miles by 224.3 nautical miles.

SC Say, Houston; CDR.

CC Go ahead.

SC There is just one whale of a lot of noise on VHF; do you guys have any idea where that's all coming from?

CC Stand by 1, Pete.

SC I mean all around the world we've been getting it, not just over Hawaii or something like that. And my other question is, we should not have VHF ranging now, right?

CC To your second question, that's affirmative. We should not have VHF ranging now. And I guess we don't have a quick answer for the noise on the VHF, although our - you know our past experience on interference from control towers and so forth. No better answer than that, Pete.

SC Okay.

SC Okay, Houston, on our first recycle we're a little bit more than - little bit less than 4 minutes early. You agree with that?

CC Roger. We are looking at it on the data.

CC And CDR; Houston. We're about 1 minute from LOS at Hawaii. We're going to see you at Goldstone at 6:19.

SC 6:19.

CC Roger

PAO Skylab Control, Houston; 6 hours 14 minutes since lift-off. We've had loss of signal at Hawaii. Some 5 minutes 45 seconds away now from acquisition with Goldstone. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-33/1

Time: 2:19 CDT, 00:06:19 GET
5/25/73

PAO Skylab Control, Houston, at 6 hours
19 minutes since lift-off. Standing by now for acquisition
with Goldstone.

CC Skylab, Houston. We're AOS at Goldstone
for 5 minutes.

SC Roger, Houston.

CC And ah - Pete, we're going to have TPI
preliminary pad for you at Bermuda, not at Goldstone. And
it's about time to swap - swap QUAD Alfa to the PSM and along
that line we kind of think your onboard instrumentation read-
ing for QUAD Alfa may be in error. We're showing a transducer
reading of about 97 percent on board, and it should be reading
about 83, over.

SC Yeah, it's stuck high, I guess. It's
reading well over 100 percent. We can ah - we can now make
out the ATM solar ... the sextant in the workshop very
clearly.

CC Roger.

SC And I have got VHF range back, it appears
to be about 63 miles.

CC Roger, copy. We're closing.

PAO Skylab Control, Houston; 6 hours, 21 min-
utes. Pete Conrad reporting. His ranging -onboard ranging
data shows a distance of some 63 nautical miles.

SC Okay, Houston. I have A on the PSM now,
and quad (garble) propellant valves are both barber pole.

CC Roger. Copy.

SC Did you get my - What do you all think
about that 4-minute slip? We've got a couple of NOUN 49s and
they will prove our vector, here, Houston.

CC Toger. At the moment, Pete, we're showing
you closer to the nominal than a 4-minute slip. But it can
change. We're just going to have to press on and look at
some more data.

SC Okay.

PAO Six hours 22 minutes, we now show Skylab
with an orbit of 230 nautical miles by 224.4 nautical miles.

CC Skylab, Houston, we're about to go LOS
at Goldstone. We'll see you at Mila at 6:27.

SC Say, Houston, could we secure this O2 purge
at 6 hours and 30 minutes isn't it.

CC (Garble)

PAO Less than 2 minutes away, now from acqui-
sition by Mila.

END OF TAPE

SL-II MC34/1

Time: 14:26 p.m. CDT, 6:26 GET
5/25/73

CC Skylab, Houston. We're AOS at MILA for
9 minutes.
CC Skylab, Houston. We're AOS at MILA for
8 minutes.
PAC Skylab Control, Houston; 6 hours 31 minutes
ground elapsed time.
SC Houston do you read Skylab?
CC Roger, Pete. Loud and clear. Go ahead.
SC One of the guys that it is on there in
Washington Center, would you go for that?
CC (Laughter) Roger. They clear you for
anything?
SC No, but they just cleared 32 Quebec some-
body for something.
CC Roger.
PAO We now show Skylab with an orbit -
SC I'm surprised we got the VHF ranging
back. We lost it for a while. We got it back just in the
nick of time to keep Mr. Weitz at work on his charts.
CC Good, good. And also Pete we're working
for an answer for you on the O2 purge and get it back to you
as soon as we can.
SC Yeah we're getting - the MASTER ALARM
light is tied to the SPS burns, it's very convenient, comes
on right at the wrong time. When O2 flow goes high.
PAO Skylab now has an orbit of 230 nautical
miles by 224.5 nautical miles. Meanwhile the Saturn workshop
has an orbit of 240.1 nautical miles by 234 nautical miles.
CC And one thing Pete on the C&W if you
inhibit that one - that one parameter it might help that
situation in event we don't get an answer that we can knock
it out.
SC Okay.
SC And we do have you at Bermuda is that right?
Or do we have you at Newfoundland?
CC The situation is Pete we're in the middle
of a Bermuda pass and we do have telemetry shutoff right now
in order to get the TPI pads out.
SC Oh, okay. We're standing by.
CC Roger that.
CC CDR Houston I've got a TPI preliminary
pad for you. Page 1-14.
SC Go ahead.
CC 007, 04 4600, plus 183, plus 007, minus
067, plus 194 47, plus 006 02, plus 023 12. Go ahead.
SC 007, 04 4600, plus 183, plus 007, minus
067, plus 194 47, plus 006 02, plus 023 12.

SL-II MC34/2

Time: 14:26 a.m. CDT, 6:26 GET
5/25/73

CC That's affirm. That's a good read back
Pete and I've got a docking attitude pad for you on page
1-17.

SC Go ahead.

CC 185 038 009.

SC 185 038 009.

CC And CDR Houston you're go to terminate
the purge whenever you like.

SC Whoopee. Thank you.

CC Roger.

SC Be advised our recycle gave us 07 :G2:2795
as a TPI time.

CC Roger. Copy.

CC And CDR Houston also on TPI the burn SCS
the ignition is EMS counter 0.8. DELTA-VC 6.9. Trim to
tailoff of 12.6.

SC Okay set the counter at 69, light at .8
and trim to minus 12.6 is that right?

CC That's affirm Pete and we're going LOS.
See you at Ascension at 6:45.

SC Okay. You got a CSM weight trim for me?

CC Negative.

CC Skylab, Houston. If you still read me go
with what you've got on vents and times.

SC Inaudible.

PAO Skylab Control, Houston, at 6 hours 40 min-
utes ground elapsed time. We've had loss of signal with
Bermuda. The next station to acquire will be Ascension.
The TPI maneuver pad passed up to the crew of Skylab calls
for time of ignition of 7 hours 4 minutes 46 seconds. A
DELTA-V of 19.5 feet per second, burn duration 1 second.

END OF TAPE

SL-II MC-35/1

Time: 2:44 p.m. CDT, 00:06:44 GET
5/25/73

PAO This is Skylab Control; 6 hours 44 minutes 53 seconds ground elapsed time in the Skylab II flight, which is now in the process of overtaking or trying to rendezvous and dock with the Skylab space station. Less than a minute now out from acquisition of the Ascension Island Tracking Station in the south Atlantic to beginning of revolution number 5. Revolution number 161 for the Skylab space station. Hopefully, we will be having a nominal burn on the next mission. Duration of some 1 second. 19 plus feet-per-second change in velocity to further drive the command service module nearer to Skylab space station. Lets monitor the air-ground circuit for conversation across Ascension Island.

CC Skylab, Houston, through Ascension.
How do you read?

CC Skylab, Houston. How do you read through Ascension for the next 8 minutes?

CC Skylab, Houston, we're AOS at Ascension for the next 4 minutes.

SC How do you read, Houston?

CC Read you loud and clear, Pete. I've got a final TPI pad for you.

SC Okay, I'm ready to copy.

CC Okay. 007 03 5000 plus 184 plus 013 minus 072 plus 19648 plus 01205 plus 01910 0071. Go ahead.

SC 007 035000 plus 184 plus 013 minus 072 plus 19648 plus 01205 plus 019100071, and our time came out to be 734763. How does that grab you?

CC Awful close. Nobody's perfect.

CC And CDR, Houston, on the potential SCS, the ignition is at EMS counter reading of 1.0 and a trim to minus 12.6.

SC Roger.

PAO Flight Director Phil Shaffer going around the room here in the control center taking a GO/NO GO from each flight controller.

CC Skylab, Houston. We're looking at the spacecraft. Looks real good. You're GO for the TPI burn.

SC Roger, Houston.

CC And we got about 1 minute and 30 seconds, Pete, until LOS. We're going to see you at Carnarvon at 7:18.

SC Okay.

PAO This is Skylab Control. Skylab crew on Skylab II mission have passed out of contact of the Ascension Island Tracking Station. Next station will be the

SL-II MC-35/2

Time: 2:44 p.m. CDT, 00:06:44 GET
5/25/73

Carnarvon/Australia Tracking Station in approximately 21 minutes, at which time the crew will have made the TPI burn or terminal phase initiation, the acronym spells out. And that should place the command service module in a closing trajectory with the workshop with just a few additional maneuvers and breaking, and the subsequent rendezvous. At 5 hours 57 minutes ground elapsed time for Skylab II, this is Skylab Control.

END OF TAPE

SL-II MC-36/1

Time: 3:17 p.m. CDT, 00:07:17 GET
5/25/73

PAO This is Skylab Control at 7 hours 17 minutes ground elapsed time in the mission of Skylab II. Skylab II presently in the process of overtaking the orbital workshop, Skylab space station. Less than a minute now away from acquisition at Carnarvon. During the pass over Carnarvon, we should get a report on how the terminal phase initiation, or TPI burn, went, which should have taken place at a ground elapsed time of 7:03:50, with a velocity change of 19.8 feet per second. This should have produced an orbit measuring 235.4 by 227.8 nautical miles. The next maneuver will be the terminal phase finalization, or TPF maneuver, which now is scheduled for a ground elapsed time of 7:37:28, with a velocity change of 27.2 feet per second. Resulting orbit will be 234.0 by 239.4. We'll stand by now for the Carnarvon, Australia, tracking station pass and the conversation between the crew. We'll stay live across Guam even though there's a slight gap of a few minutes. This is Skylab Control, standing by.

CC Skylab, Houston; we're AOS at Carnarvon for the next 9 minutes.

SC Roger, Houston. We had a good TPI burn on time with the following NOUN 81. Wait 1.

CC Okay.

SC Page open. We burned plus 18.1, plus 006, and minus 078. The burn was on time; the DELTA-VC was minus 12. The residuals that the burn added to were all balls minus 0.2 all balls. Since that time, we have had TPM 1. The final comm for TPM 1 was plus 005, minus all balls, plus 003.

CC Roger, CDR; copied all that.

SC We've completed the TV prep checklist.

And we will go into the rest of this when we get there.

CC Very good.

CC And, Pete, we still have about 8 minutes left in this pass, and we're standing by.

SC Eight minutes. Now you get to watch our next burn.

CC Roger; we're watching.

SC Houston, you're looking at the DSKY.

CC Affirm, Pete, we are. We got it.

SC Okay.

CC Skylab, Houston; we're about 25 seconds from LOS. We'll see you at Guam at 07:31.

SC Okay.

END OF TAPE

SL-II MC37/1

Time: 15:29 a.m. CDT, 7:29 GET

5/25/73

AO This is Skylab Control. Skylab 2 space-craft service module has gone over the hill from the Carnarvon Australia tracking station. Will next be seen by the Guam tracking station in the western Pacific. We'll leave the circuit up live during this short gap between Carnarvon and Guam. Crew reported that the TPI burn was on time. Minimum residuals, 0.2 of a foot per second in one axis, residuals. And if I'm reading this display right our trailing distance at this point ought to be around 35.6 miles. Current orbital period of Skylab 2 one minute 33 seconds. One hour, I beg your pardon, 1 hour 33 minutes 12.6 seconds. Current altitude 229.9 nautical miles in an orbit measuring 235.5. Apogee 227.9 nautical - and perigee. We'll stay up live for the upcoming pass over the Guam Island tracking station. This is Skylab Control standing by.

CC Skylab, Houston. We're AOS at Guam for the next 10 minutes.

SC Talleyho the Skylab. We got here in daylight at 1.5 miles, 29 feet per second.

CC Roger, Pete. Copy.

PAO TV picture beginning to come in now to the Control Center.

END OF TAPE

TV PASS WORKSHOP

SL-II MC-38/1

Time: 3:32 p.m. CDT, 7:32 CET
5/25/73

PAO TV picture beginning to come in now
to the control center.

SPEAKER (garble)

CC GO GNC.

SC Okay. Houston, could you tell me if
the workshop is firing TACS?

CC Stand by 1; I'll check. Hang on.

SC As a matter of fact, you don't have
to tell me. I thought I was flying through clouds up here,
and everytime it fires the TACS (garble) I can see it, and
it's a big burst of gas out of it.

CC Roger. That's affirm. Pete, you're
right. We are firing.

CC And Skylab; Houston. We want quads
Bravo and Delta to the PSM when you can.

SC Just fired the TACS ...

CC Roger.

SC Just fired another one. Man, does
it shoot a big cloud out when it does that.

CC Skylab, Houston. Did you copy my request
to Bravo and Delta quads to the PSM?

SC Everything's on PSM, Houston.

CC Roger. Thank you much.

SC Hey, Houston, how do you read now?

CC I read you loud and clear, Pete. How
me?

SC Okay, I'm on VOX. You'll hear it all.

CC Okay, good.

CC And CDR; Houston. We're going to be
starting--

SC I need to start breaking right now.

CC Roger.

SC Okay, Houston, I can already see the
partially deployed solar panel. I'd say it's going right.

CC Roger. That's what we think, and CDR;
Houston. In about 1 minute we'll be starting the SWS maneuver,
and I'll let you know when we issue the command.

SC Okay.

SC (garble) right now.

SC EECOM (garble)

SC Down to 10 feet a second. No, a 1,000 feet.

CC Roger.

SC You guys getting TV, Houston.

CC Roger, Paul, we do have TB - TV, and it's
kind of hard to see right now, but it's getting better as
you get closer.

CC And Skylab; Houston. We've issued a

SL-11 MC-38/2

Time: 3:32 p.m. CDT, 7:32 GET
5/25/73

maneuver to the SWS. You ought to see it move a little bit.
SC Okay, I saw the TACS fire.
SC What it is, Dick, is a very high contrast
target. It's hard to get that sucker right on TV so you can
see anything.
CC Roger; understand, Paul.
CC And PLT; Houston --
SC (garble)
CC And PLT; Houston. If you have a chance
to answer, we'd like to know what the light setting is on
the television; maybe it'll help us tune ours up.
SC I'm switching back and forth between
peak and average to try to get it, Dick.
CC Roger, Paul; copy.
SC I'm getting the best picture on Pete,
which is what you got right now. And look at it; it's just
not convenient for me to get my head around to read the numbers
to you.
CC No, that's okay.
SC I got to get a break, man. I don't
like what's going on.
CC And PLT; Houston. Just leave it at
peak lighting, and it's looking better and better to us.
SC (garble)
SC Okay, Houston, the meteoroid shield area
is solid gold.
CC Roger; copy.
SC Looks rather smooth. SAS wing
number 1, you can see it. It looks like it's a good 15-degrees
deployed.
SC (garble) see I'm trying to handle the
damn thing.
SC No.
CC And, Skylab, we're about 1 minute from
LOS at Guam. We're gonna see you at Goldstone at 7:57.
SC Roger.
CC Give me a ...
SC There it is, Dick, ...
CC Roger. We're looking at it, Paul.
SC I don't see anything wrapped
around it. See the outboard - see right now that the out-
board solar panel is deployed partly.
SC It's nothing left over on the other
side. See some tubes and wiring sticking out.
CC Roger, Pete.
SC (garble) turn off the (garble) ranging.
(garble) around here. Oh, what's that? (garble) that dinkey
little TV screen.

SL-II MC-38/3

Time: 3:32 p.m. CDT, 7:32 GET

5/25/73

CC And Skylab; Houston. The lighting that you've got set on the TV camera right now is super. We're about - we're very close to LOS now, and you can go ahead with your photography.

SC Okay, be advised the meteoroid shield is pushed up in under the SAS panel for its whole length. (garble) under that big ferry.

SC Yeah, I can see the butterfly hinge under there.

CC Roger.

SC (garble) wrapped around the top on this side?

SC ... let's go around--

SC I got to get some photos now.

SC How good are (garble)

PAO This is Skylab Control. We've had loss of both audio and television signal from the Guam Tracking Station. (garble) 14 minutes now out of Goldstone, at which time the television should resume again for a pass that will run down through Goldstone and Texas and Mila Tracking Station and Bermuda. We'll bring the circuit back up just prior to Goldstone acquisition. At 7 hours 43 minutes ground elapsed time in the mission of Skylab II, this is Skylab Control.

END OF TAPE

SL-II MC39/1

Time: 15:52 p.m. CDT, 7:52 GET
5/25/73

PAO This is Skylab Control 7 hours 53 minutes ground elapsed time, Skylab II ground elapsed time. Here in Mission Control Center members of Skylab management and the flight control team are going over drawings and documentary photographs of the solar wing to try to speculate as to what the potential damage might be to the solar wing based upon the crews initial assessment of the damage reported during the recent pass over the Guam Island tracking station. The crew described the situation - that it appeared portions of the micrometeoroid shield had slid back underneath the - one of the solar wings but that the butterfly hinge on which the main beam swings out is apparently intact. They can see the actual hinge. They also reported being able to see the TACS or thruster attitude control system (bursts of gas being emitted, cold gas, nitrogen) when the thruster attitude control system aboard the space station would fire to maintain space station attitude during the upcoming stateside pass. We'll have a resumption of television from the command service module as they do a fly-around. And further damage assessment descriptions. Midway through the stateside pass the crew of Skylab II will be given a GO/NO GO for soft docking. We just heard a warbling sound that is the alarm that we're two minutes away from acquisition. This is the first time this alarm has been used in a mission other than simulations for Skylab. Earlier in the Skylab simulations a dark room timer which sounded much like an alarm clock was used, but now we've gone to a warbling alarm that goes off at 2 minutes prior to acquisition at each station primarily to alert the flight controllers that they should settle down and be thinking about the upcoming station pass. We'll leave the air-ground circuit up live. We're less than a minute away from acquisition at Goldstone. And we'll await the resumption of television and description by commander Pete Conrad's crew of the situation on Skylab space station as they fly around. Apparently we have had AOS at Goldstone.

SC Hey Colonel, let me rig up the TV.

CC Skylab Houston we got you AOS at Goldstone.

SC Hey Joe. Could I have the rendezvous checklist. Dig out and load VERB 23 NOUN 22 with the docking angle.

CC Skylab Houston we're AOS at Goldstone. We've got you for the next 16 minutes.

MS Inaudible.

SC Let me - -

SC Give me the TV.

SC - - give a brief description. As you suspected, solar wing two is gone. Completely off the bird.

END OF TAPE

TV PASS-DAMAGE

SL-II MC-40/1

Time: 3:58 p.m. CDT, 00:07:58 GET
5/25/73

SC ... brief description. As you suspected, solar wing two is gone completely off the bird. Solar wing 1 is, in fact, partially deployed in the rear, so that you've got different readings. That's symmetric between your three solar panels, as there's a bulge of meteorite shield underneath it in the middle, and it looks to be holding it down. I think that we can take care of that with the SEVA. It looks, at first inspection, like we ought to be able to get it out. The gold foil had turned considerably black in the sun.

CC Roger; copy. Say again, INCO.

SC The solar SAL is clear. Hey, here's something. Hey, Houston.

CC Go ahead.

SC On the vent modules, all the covers are still intact.

CC Roger.

SC The covers did not leave the vent modules on wing number 1.

CC Copy.

SC Can't tell which way to point this son of a gun for nothing.

CC Roger.

SC Okay, Houston, are we too close or too far for you?

CC I think you're real good, Pete. We can see that whole wing.

SC Okay. Be advised that we have all four service modules spot lights on from overheat. They're reading 200 degrees.

CC Roger.

SC Why can't I find it. One thing, this TV set is too big for in here.

SC See that, Dick?

CC Roger, we're looking at it. I assume you're pointing just about in the place where the meteoroid shield is underneath the wings, is that correct?

SC Well, I'm trying to, but my picture has turned inside out and backwards, and that camera hangs up in here in that couch structure.

CC Roger.

SC Okay, Houston, it looks like the meteoroid shield, at the upper thick panel on the SAS plank, has wrapped around it just slightly. Now, my guess is that our easiest thing to do is just go to the end and try and deploy it.

CC Roger. Pete, from which side of the SAS is the meteoroid shield slight wrapped around? Is it on the side of the main tunnel, or the underside?

SC The underside, Dick.

CC Roger.

SL-II MC-40/2

Time: 3:58 p.m. CDT, 00:07:58 GET
5/25/73

SC Can you see a good TV picture, or not?
SC No, I haven't been able to give them one.
And they can't play it, the damn spacecraft keeps drifting.
I have a hard time getting the thing to correlate it.
CC Well, hang in there, Paul. It isn't real
steady, but every now and then we're getting some pretty clear
views and we can replay it. And one other question -
SC Houston, white is under the gold foil next
to the tank. The gold foil looks like it has been cleaned off
under that meteoroid skin, too. Or no, I guess it's the Teflon
from the meteoroid skin laying on the gold - under the SAS
plank.
SC A worse possible frigging place for me to
try to point this thing.
SC (garble)
SC Almost anyplace else. I'd like to be
looking more out the window. There, that's good. That's
better.
CC And, Skylab, Houston; we think that's
green Teflon on the underside of the meteoroid shield that
you were probably coming in on just a minute ago.
SC Yeah, that's what it is. Now, right by
the scientific airlock, the aluminum - the gold foil has curled
up on - at the, oh, plus-X end of it. But I don't think that'll
hinder any kind of a deployment attempt.
CC Roger. And, Skylab, Houston, we request
you go to P collide on the TV so we can see a little bit
better down in the crevice.
SC That's where I've been, babe.
CC Okay. Fine.
SC All right, I'm getting awful close to
the discone antenna, as about 5 feet sitting outside the window
there.
SC And, Pete, one question that I would like
to ask you and that is, you said you could see the butter-
fly hinge a while ago, could you tell us the condition
of it.
SC Well, the butterfly hinge is underneath
the (garble) wing all the way on the far side of it, and it's
up.
CC Roger.
SC I mean - I didn't even notice it, Pete.
SC Oh. The meteoroid shield came loose and
wrapped around it from the other side.
SC I can see it.
SC Yeah, but the one thing that's bothering
me, though, is that - that if this was the wing that was
down and locked, and then they opened it, that it pulled that

SL-11 MC-40/3

Time: 3:58 p.m. CDT, 00:07:58 GET
5/25/73

meteoroid shield as far as it did. It pulled it 18 feet.

SC That's a hell of a good point.

SC See, and that's where it's hanging up the solar panel right at the upper vent plate. Does that make sense to you, Houston, the upper of the three vent plates, which is just below where the meteoroid shield starts, the top part of it starts, and that part is wrapped onto the SAS beam by about 3 or 4 inches.

CC Roger, Pete. And I think you gave us a real good picture of that piece of metal, just a second ago.

SC Still with us, Houston?

CC Affirmative; sure are. Still got about 9 minutes left in this pass.

SC What time is it?

SC Tell me when daylight is -

SC Night, 8:24.

CC CDR, Houston; you still got 21 minutes of daylight and it's at 8:26.

SC Now where would you like to go, anybody?

SC I gotta get away from this. Shall I get down? No, I think we've lost them.

SC No, we got it.

SC We - well -

SC All right, let's get down. I gotta get out of the way of this discone. We're going to get down and drop below it.

SC Hey, this TV doesn't work very good as far as high contrast.

SC I'll keep it cocked this way so that you can get TV out your window. But you got to tell me where I'm going over there. Well, I want to.

CC CDR, Houston. We've seen enough television to let us think a lot about this. You're cleared to turn off the TV and complete any photography you haven't gotten, and you're cleared for a soft dock.

SC Getting ready for - Reckon I got a -

SC Hey, Dick, are you there?

CC Affirm, Paul; go ahead.

SC I can't understand you, but there's that little piece that looks like a row of bolts that's wrapped up over the edge of that big ferry.

CC Roger, we see that, Paul. And if you did not copy my last - we think we have seen enough TV here; you're cleared to turn off the TV and complete your photography, if necessary, and you're cleared for a soft dock.

SC Well, the little door's open.

SC Just a little hinge door.

CC CDR, Houston; do you read?

SL-II MC-40/4

Time: 3:58 p.m. CDT, 00:07:58 GET
5/25/73

SC Look where it tour down the other tunnel too.
See there? Another tunnel; that's clean.
CC CDR, Houston. Do you read?

END OF TAPE

SL-II MC41/1
Time: 16:08 CDT, 8:08 GET
5/25/73

CC CDR, Houston. Do you read?
SC We haven't seen it yet. You're almost too
close, Pete Can look out - look how it's scratched. I'll back
away. Look how it's scratched the gold shielding down the ward-
room window. Think that whole thing tore off of there?
SC I think the key part is right where all
those wires are. See them hanging out that's upper vent.
If we don't get it out there, we aint gonna get it up, right.
SC A row of bolts.
SC That's our hinge line. You think that's
what is left of a hinge?
SC Left a row of bolts.
SC Is that far enough out to get a good
view?
SC If I look at the banjo hinge, I've gotta
get down more. The banjo hinge on this side of the main tunnel
is just clean wiped off. See it?
SC At the butterfly?
CONRAD Butterfly.
SC (Garble) TV camera is the worst - -
CC Skylab, Houston. Do you read?
SC Hey, look, look! Yeah,
SC I don't know (garble).
SC How's that?
SC That's good.
SC There's Don Link's experiment hanging
on the side.
CC CDR, Houston. Do you read?
SC How much fuel we using?
SC Now is that good TV for you, or not.
CC Skylab, Houston. If you read, we are
seeing the TV, and how do you copy?
SC A strong signal, yet. Houston, you
still with us?
CC Skylab, Houston. Affirmative, how do you
read?
CC Skylab, Houston. How do you read?
SC Get a picture of the top end of that
thing?
SC (Garble) I'm scared to get underneath
too far, there's ATM panels down there. See.
SC I'm going to start heading for the
front end of the vehicle.
CC Skylab, Houston. How do you read?
SC (Garble).
CC Skylab, Houston.
SC (Garble)

SL-11 MC41/2

Time: 16:08 CDT, 8:08 GET

5/25/73

CC Skylab, Houston. How do you read?
CC Skylab, Houston. How do you read?
SC Loud and clear.
CC Roger, Pete. We got a whole lot of good TV, there. And you're clear to secure the television and complete any photography, if necessary and you're clear for soft dock.

SC Okay, Houston, (garble) set 8:25.
CC It's 8:26, Pete. It's 13 minutes from now, you're about 1 minute from LOS at Goldstone. We're going to see you at Carnarvon at 8:56.

SC Okay. We're going to go ahead and soft dock at this time.

CC Good show.
SC Okay, you've got one more picture, here.
SC (Garble) (Static)
CC And ah - Skylab, Houston. We think we may have an ARIA pass, although we had trouble the last time, it'll be about 8:32.

SC Okay, Houston.
SPEAKER (garble)
PAO This is Skylab Control; 3 hours, 14 minutes ground elapsed time in the Skylab 2 Mission. We've had loss of signal from this state-side pass on the beginning of the 6th orbit for Skylab 2. We'll have, perhaps, acquisition with a - an ARIA aircraft in 17 minutes, but the next primary station will be Carnarvon Station in some 40 minutes, 43 seconds. Skylab Space Station, with the command service module and crew flying around it, now crossing the northeastern coast of South America. During the fly around and damage assessment, the crew described the conditions aboard the space station, that the meteoroid shield appeared to be jamming the solar panels. And that the gold foil, which is laminated to the skin of the space station underneath the micrometeoroid shield appears to have been scorched black by the radiation, thus far, encountered in the past 10 days, or so, the space station has been in orbit. He did comment, that the solar scientific airlock, the one through which the parasol will be deployed tomorrow afternoon, was clear of any debris. He also commented, that perhaps one approach would be merely to yank on the lower end of the solar panel, to try to deploy it in that manner. And he also mentioned that a row of bolts, apparently from portions of the micrometeoroid shield appeared to be wrapped around one of the solar panels. It remains to be seen, as to how much difficulty this debris will make in freeing the solar panels

SL-II MC41/3
Time: 16:08 CDT, 8:08 GET
5/25/73

and getting them to swing outward, thereby doubling the amount of electrical power available to the space station. Now 38 minutes out of Carnarvon Tracking Station. At 8 plus 17 ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-42/1

Time: 4:32 p.m. CDT, 8:32 GET
5/25/73

PAO This is Skylab Control, 8 hours 32 minutes ground elapsed time in the Skylab II mission. We may have a brief exchange with the crew through an ARIA aircraft here, find out how they are doing on the soft-dock operation. Presently the space station and the Skylab II command service module are in the south Atlantic - over the south Atlantic. We'll stand by for any communications between the spacecraft and the ground, through the aircraft may be rather scratchy. That remains to be heard. Skylab Control standing by. We have contract - contact through the ARIA aircraft; however, it's not ready for voice transmission yet. Continuing to stand by, this is Skylab Control.

CC
do you read?

Skylab, Houston through ARIA. How

CC
ARIA?

Skylab, Houston. How do you read through

CC CDR, Houston. I think I cut you out.
PAO This is Skylab Control. We're still attempting to make contact with the crew of Skylab II through the range ... aircraft flying over the south Atlantic. A converted C135 jet aircraft loaded down with communications gear. We've made no contact through S-band, and apparently the VHF signal is not strong enough to overcome the noise. We'll continue to stand by, though, for the next 4 minutes until loss of signal through the aircraft relay. At 8 plus 39, this is Skylab Control standing by.

PAO This is Skylab Control. Apparently no joy in raising the spacecraft through the instrumented aircraft flying under the ground track of Skylabs I and II. We have no confirmation yet that they have soft docked. Hopefully, at Carnarvon, some 11 minutes and a half from now, we will have word from the crew confirming soft docking. And if they stay on schedule, they should be in the midst of a supper meal. At 8 hours 44 minutes ground elapsed time of Skylab II mission, this is Skylab Control.

END OF TAPE.

SL-II MC-43/1

Time: 16:56 p.m. CDT, 8:56 GET

5/25/73

PAO This is Skylab Control at 8 plus 56 ground elapsed time in the mission of Skylab II. We should have acquisition at this time with the Carnarvon/ Australia tracking station. A fairly low elevation angle pass of slightly over 9 degrees. We'll standby for the calling.

CDR Roger, Houston we had a good soft dock. We are sitting here eating dinner at the moment, and everything's just fine on the time line.

CC Real fine Pete.

CDR We been sitting here kicking around our plan of attack for the plane and I think what we are going to try to do is see how tight the metal is curled up along the upper edge of it there. Just work our way down toward the edge of the SAS panel and try and free her up from down there where we can exert the most pressure.

CC Roger Pete, copy. Why don't you guys finish your dinner and keep talking about it and we got some folks talking about it on the ground and we'll get together when we get a chance.

CDR Okay. Could you get anything out of the TV or not?

CC Yes we could Pete, and we were also had some folks taking Polaroids of it when we happened to get a real good shot. And we - we're got some folks over at Marshall taking a look at it also and we think we are in pretty good shape.

SC Okay, that's good Dick. I'm sorry about it, it was the only way I could mount the monitor. It was upside down and backwards from the way I was pointing the thing. Plus that camera almost too big to maneuver around in this windows number 2 and 4. With the lens right up against the window then the connectors actually protrude down into the couch ... and it was hanging up on the headbeam and the headrest and all that jazz.

CC Roger, well, we think we got enough. And anyway it was fun listening to you trying to handle it.

SC Yeah, you'll handle all my letters huh?

CC And Skylab, Houston, we're wondering if you get a chance if you could give us a rough estimate of what you think the CSM X-axis is between the X-axis and the Sun.

CDR Well, I can do a little bit better than that guy. Can I tell you what my docking attitude is? How does that do?

CC Okay, go ahead.

SC Okay, we are rolled about 200 degrees and we're pitched about 32 degrees and we're yaw at about 5 degrees.

SL-11 MC-43/2

Time: 16:56 p.m. CDT, 8:56 GET
5/25/73

CC Roger, copy. Thank you.
CDR Okay Houston, let me ask you a question.
Nobody seemed to get too excited about these service module
quads getting hot. Is that okay? All the lights are
out now.

CC Roger Pete. We were hustling around
thinking real hard about that. We believe it was heating
during - just due to the usage you were giving them right
there and we don't think anything's wrong. And we are taking
a look now at the quantities that we have and we are going
to let you know what - what they are and what the status is
in just a second.

CDR Yeah, how much did we use?
CC My best estimate right now Pete is
about 100 pounds.

CDR You mean for the fly around?
CC That's affirm Pete. About 100 to 110
pounds during the drive around. And we're putting those
number together now Pete and I'll have a little bit of status
for you either here or one of the succeeding stations.

CDR Okay, thank you Houston.
CC Roger.
CDR We just popped out in the sunlight and
I have a good look out my window of 3 wire bundles dangling -
hanging off where the the old wing used to be. I'm also guessing
that we should be able to get a look at some portion of the
parasol when we stick it out. As I mentioned before in the
fly around I see no reason to clear any debris away from
the SAL. There is some crinkled up pieces of gold foil around
it, but that's about it. There are no hanging wires or plates
or anything like that could damage it.

CC Roger, Pete. Copy.
PLT Yeah, I see them but I don't think they
are going to be in the way.

CC And CDR we've got about 40 seconds from
LOS here. We're going to see you at Guam at 9:10.

CDR Guam at 9:10. Roger.
CC Roger.

PAO This is Skylab Control. Loss of signal
now from the Carnarvon Australia tracking station - rather low
pass over Guam - in about 7 minutes. And then a fairly solid
Stateside pass at least over Goldstone and Texas station and
a portion of the Mila station following the Guam pass as the
orbit precedes westward. Pete Conrad during the Carnarvon
pass described what he thinks the whole plan of attack ought
to be in clearing away the debris and trying to deploy the
one remaining good solar panel - at least it appears to be in

SL-II MC-43/3

Time: 16:56 p.m. CDT, 8:56 GET
5/25/73

fair shape. He wants to maneuver down the - during the stand-up EVA maneuver down the length of the solar panel cover to see high tight the metal from the micro-meteoroid shield is jammed into the mechanism, working his way down to the lower end of the solar wing to try to yank the wing loose. He reported that the crew at the time over the Carnarvon pass were eating supper on schedule. There was a discussion of what could be seen from the rendezvous windows of the command module, now soft-docked at the axial port of the docking adapter. Conrad commented that wire bundles could be seen hanging out from where one of the solar panels should have been. It was estimated on the ground that about anywhere from 100 to 110 pounds of reaction control system fuel. An oxidizer had been used during the fly-around and inspection. We're some 4-1/2 minutes out from acquisition at the Guam Island tracking station in the western Pacific. Guam pass is about 5 minutes 57 seconds - 56 seconds long, elevation angle of slightly over 8 degrees. Then we come across Goldstone at a fairly high angle and Texas and Mila. And at 9 hours 6 minutes ground elapsed time in the Skylab 2 mission, this is Skylab Control.

END OF TAPE

TRIFOLIUM IN ASPRACIUS

SL-II MC-44/1
Time: 17:09 CDT 09:09 GET
5/25/73

PAO This is Skylab Control. 9 hours 9 minutes, ground elapsed time in Skylab 2 Mission. Less than a minute out from Guam. We'll stand by to hear whether the crew of Skylab 2 has any further comments on assessment of damage during their flyaround, in between bites of their evening meal. Here in the Control Center Polaroid pictures made of the TV monitors are being studied for some insight into the apparent damage caused by the sloughing off of the micro-meteoroid shield at launch. Here's a call to the crew.

CC - The next 12 minutes.
CDR Roger, Houston.
CC Skylab, Houston on VHF, request you select Omni Bravo.

CC Skylab, Houston, request Omni Bravo.
CC Skylab, Houston. We still have several minutes left in Guam pass. I think we dropped out because of a shading problem on the GWS. How do you read?
CDR Okay, we read you loud and clear, now, we wondered what happened to you.
CC Well, we just hid for awhile there.
CDR Boy, I've had some big things on my noses in space before, but this is by far the biggest. It sure beats the Agena or the LM.
CC Roger.
CDR Dinner's going pretty good, except Paul's found another one of them tree trunks in the asparagus.
CC Roger.
CDR Say, while we got you, we might comment a little bit about some of the new stuff we've run into today, like some of the food in the cans. I had stewed tomatoes for lunch. I'd be betting they would be real hard to handle up here, and it turned out that even as goopy as they are, they were real simple to handle, and the same way with the other less viscous materials that we've had on our lunch today, like the turkey and gravy, and the chicken and gravy.
CC Roger, Pete, that sounds real good. We're about to go LOS here at Guam in about 15 seconds. We'll see you up at Goldstone at 9:33, and I'll have some words there on your RCS quantities.
CDR Okay.
CC And Skylab, Houston. Be advised that we'll be standing by at Goldstone, and we'll try to get the logic sequence check out of the way.
CDR Okay. Houston.

SL-II MC-44/2

Time: 17:09 CDT 09:09 GET

5/25/73

PAO This is Skylab Control. We've had loss of signal through the Guam tracking station. During the early part of that pass over Guam, apparently the bulk of the workshop was blocking reception and transmission by the Command Service Module on the antennas. Once the spacecraft came out of the workshops electronic shadow, the communications were fairly crisp. Most of the comments had to do with the critique of how the food they are presently eating is manageable in a zero-G environment. Conrad commented that Paul Weitz had found a tree trunk in his asparagus, and that even though he had anticipated the stewed tomatoes would be rather difficult to handle, he found they were much easier than he expected, even though they were somewhat soupy. Goldstone in 15 minutes. At 9 hours 18 minutes, ground elapsed time in the mission of Apollo, as you were, Skylab 2, I knew I'd do it, this is Skylab Control.

END OF TAPE

SL-II MC-45/1

Time: 17:23 CDT 9:32 GET

5/25/73

PAO This is Skylab Control. Nine hours 32 minutes ground elapsed time. The Skylab II mission less than a minute away now from acquisition at the Goldstone tracking station, crossing through Texas and the edge of the Mila station. And we'll start picking up the tracking ship, Vanguard this revolution for 3 successive passes. Vanguard is off the southeast coast of South America. During the pass over Vanguard later and this revolution, we should get a GO/ NO GO for the standup EVA and damage repair. We're getting a freeze frame playback of the television from the spacecraft. We'll switch that out to the News Center now. We're standing by for resumption of communications to the spacecraft through the Goldstone station. At 9 plus 34 ground elapsed time, this is Skylab Control standing by.

CC Skylab, Houston. We're AOS at Goldstone for the next 14 minutes.

CDP Okay, kind of breaking up Houston. Maybe it's our antenna pattern. I noticed we're kind of on top of the SWS, looking down at the world.

CC Roger, understand. While we take a look and make sure we have good data before doing the sequential logic checks, I have a couple of 3 things I'd like to mention to you.

CDR You're breaking up badly, Houston.

CC Skylab, Houston, request duplex Bravo.

CDR Okay, duplex Bravo.

CC And be advised I'm reading you loud and clear.

CDR Okay, you're breaking up.

CC Skylab Houston. We're go on the sequential logic check. Stand by one.

CDR You're breaking up Houston. Understand you want to do the logic sequence check. Is that right?

CC Negative. Stand by one.

CC Skylab Houston. Affirmative, we are ready for the sequential logic check. Go ahead.

CDR Okay, the segs logic - two of them are off. The segs pyro alarm, two of them are safe. And the segs ZB6 logic, two of them gone closed. They are closed. And the segs arm cb gone closed.

CC Roger and we are ready for sequential logic two of them on up.

CDR You got the logic one and two.

CC Roger.

CC Skylab Houston. It looks good. You're go for pyro arm.

SL-II MC-46/1

Time: 17:42 p.m. CNT, 9:42 GET

5/25/73

CC Skylab, Houston, if you read, request
select best omni.

CC Skylab, Houston. If you read, request
select best omni.

CC Skylab, Houston. How do you read?

CC Skylab, Houston. How do you read?

CC Skylab, Houston. How do you read?

CDR Loud and clear.

CC Roger, Pete. Read you loud and clear
now, we've been having our problems here on the ground. We've
still got about 3 minutes in this pass.

CDR Okay, what is it you want to tell me?

CC Okay. What I wanted to tell you was
is that originally we had allowed about 400 pounds for the
SEVA, RCS, and right now we're about 140 pounds down from the
flight plan so that still leaves about 260 pounds which is
well more than twice what you spent on that whole drive-around
before. And that allowance still protects both the RCS deorbit
redlines and so in essence you're fat on RCS, but I - just be
advised those are the kind of numbers we're looking at.

CDR Okay.

CC Incidentally also we believe that your
onboard readings of Bravo and Delta may be about 5 percent
high when we run it through the computers here on the ground.
And the PSM reading is off-scale half high and actually you
have about 70 percent, 70 percent remaining.

CDR Okay.

CC And Pete, while I've still got you
here, our preliminary recommendation is - I think goes along
with yours - and that is the first try should be just pulling
at the bottom of the beam. And I guess our recommendation
as far as tool configuration might be 1 pole with the SAS
hook, one with a cable cutter, and one with a mushroom and
tether.

CDR Okay. You want us to pull on the bot-
tom first. We'll give her a go.

CC Roger.

CC Roger, Pete. That's affirmative and
that is a preliminary recommendation and we'll see you again
at Vanguard. We've got about a minute and 20 seconds to LOS,
and Vanguard is at 9:58 - about 10 minutes.

CDR Okay, we're on SEVA L 1 - 2 - we've
all eaten and we're right at the bottom of the page - we're
reconfiguring the spacecraft and cleaning it up.

CC Very good, we'll see you at the Vanguard.

PAO This is Skylab Control. Space station

SL-II KC-46/2

Time: 17:42 p.m. CDT, 9:42 GET

5/25/73

and the docked command service module with the crew aboard now crossing over the Isthmus of Panama. Some 9 minutes out of acquisition by the tracking ship Vanguard lapping over into a somewhat scratchy relay aircraft flying off the coast of South America. Had some communications problems during the Stateside pass which we hope will be resolved by the next time around. Flight plan calls for a GO/NO GO for the standup EVA to repair the damage and attempt to swing out the remaining solar wing. This GO/NO GO will be given over the Vanguard tracking ship. We have a real-time playback of the fly-around television being switched out now to the news center. Back up on the line at Vanguard acquisition in 8-1/2 minutes. At 9 hours 51 minutes ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-47/1

Time: 17:58 CDT 09:58 GET

5/25/73

PAO This is Skylab Control, 9 hours 58 minutes, ground elapsed time, mission of Skylab 2. About a half minute left of daylight before the spacecraft goes into darkness on this revolution. About a half minute away from acquisition by the Vanguard tracking ship off the coast of South America. We should be getting a GO/NO GO for the standup EVA plus some additional instructions to the crew, and suggestions on how to best go about the task, through the Vanguard. Stand by now for the CAPCOMs call.

CC Skylab, Houston at the Vanguard. How do you read?

CDR Loud and clear, Houston.

CC Roger, Pete.

CC We're about halfway down 1-3, Houston, doing helmets, and I think we'll make it just about on time.

CC Real good, Pete, we've talked about a lot of things here on the ground, but I guess about the only thing we feel like passing up is the fact that we probably think if that piece of metal that's bent over the wing is indeed a little piece of angle iron, that you probably cannot cut it, and so if you want to get it out of the way, you'll probably have to bend it out of the way, but it'll be strictly your call, when you guys get out there.

CDR It's not bent up over the top of the SAS, beam, it's just bent along the side of it, with just a curl over the top and it didn't look like it had any iron beam structure in that part of it.

CC Roger. Sounds good, and we'll just leave it to your call as to how to get it done.

CDR Okay. Paul tells me it was an angle in there. I didn't see that.

CC Skylab, Houston. We've looked at the spacecraft data on the ground. It all looks good to us. You're clear for a local flight. Have fun and fly safe, and we'll see you at the next pass.

CDR Okay.

CC Skylab, Houston. We're about 1 minute from LOS, we'll see you at Goldstone at 11:10.

CDR Okay, Houston.

CDR Houston, be advised for some reason we seem to have stabilized lower left corner in the docking target, which says that we are resting on about the 7:30-8:00 position of the docking ring or something, looks like. We're off to one side. We've just stayed put.

CC Roger. Copy.

SL-II MC-47/2

Time: 17:58 CDT 09:58 GET

5/25/73

PAO This is Skylab Control at 10 hours 8 minutes, ground elapsed time in the mission of Skylab 2. During this just completed pass over the tracking ship, Vanguard, the crew of Skylab 2 was given a GO for the standup EVA to attempt to repair the damage, and free the remaining solar wing, which generates electrical power. The recommendation was to attempt to bend back what appears to be an aluminum structural angle, a portion remaining from the micro-meteoroid shield structure, at any rate, to bend it away from its wrapped position over the solar panel beam, then fly down to the lower end of the beam and attempt to pull it away from the Skylab workshop, and swing it out to its 90 degree position, at which time the solar panels should unfold, at least putting the workshop cluster on three quarters of the normal electrical power availability. The CAPCOM, Dick Truly, gave them a GO for what he called a local flight. We're an hour away from the next acquisition at a tracking station, which will be Goldstone. And the crew, according to the time lack, should be just in the process of closing the hatch and repressurizing the Command Module, after hopefully doing a successful job of freeing the solar panel. At 10 hours 11 minutes, ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-4B/1

Time: 1900 CDT 11:00 GMT

5/25/73

PAO This is Skylab Control. Eleven hours ground elapsed time in the mission of Skylab II. Presently flying just south of the Aleutian Island chain in the north central Pacific. Eleven minutes out of Goldstone acquisition. As we come up on Goldstone, they should be, according to the time line, just in the process of closing the hatch and repressurizing the command module after doing the so called SEVA or standup EVA to attempt to repair and deploy the solar panel, the one remaining solar panel. The earlier fly around television was used in attempting to trouble shoot and analyze what repair work was feasible by making sketches from freeze-frame playback of what the apparent damage was and what pieces of debris might be holding back the main beam of the solar panel. Comparing those sketches with the engineering drawings and photographs, it was surmised that a portion of the micrometeoroid understructure, namely a piece of aluminum angle had been wrapped around the beam. Therefore, it was recommended to the crew that they attempt to straighten out the piece of angle which in turn would free the beam. And should the beam be successfully swung out to its 90 degree point, and the solar panels unfold, there is every confidence here that it will generate the required or its designed load of electrical power into the cluster power generating system. Slightly over 100 pounds of reaction control system fuel were burned during the fly around maneuvers and damage assessment. This is slightly below the programmed flight plan quantity - remaining number. However, it still leaves a comfortable margin for any contingency reaction control system deorbit maneuver that might become necessary at the end of the mission. If for example the main propulsion engine, the SPS engine on the service module fail to ignite. The orbital workshop at this time remaining essentially unchanged in its temperature and pressure conditions. We have no data coming in now on the workshop. Inasmuch as we're out of contact - off the range, be coming across Goldstone in 7-1/2 minutes. Out of some 28 minutes remaining until spacecraft sunset. At 11 hours 3 minutes ground elapsed time, this is Skylab Control.

END OF TAPE

EVA

SL-II MC-49/1

Time: 19:10 p.m. CDT, 11:10 GET
5/25/73

PAO This is Skylab Control, 11 hours 10 minutes ground elapsed time. Less than a minute away from acquisition through the Goldstone tracking station - 18 degree elevation angle maximum on this Goldstone pass, just slightly over 2 degrees grazing along the edge of the Texas acquisition circle. There's a gap before pass over the Vanguard at a fairly high angle. Hopefully we'll get a report on the standup EVA from the crew during this pass over Goldstone. We still are 21 minutes away from sunset on the spacecraft. We'll stand by now for the initial call from CAP COM up to the crew and see how the standup EVA went.

SC Ah, there it is.

CDR It looks to me like it's clean underneath there except that spot, huh?

SC Yeah.

CDR Is there a black piece that's curled up due to the lip next to the green?

SC I don't understand what you're talking about.

CDR Hell I can't see it. The fucking hatch is in my way.

CC Skylab, Houston, we're AOS at Goldstone for 10 minutes. (Laughter)

SC I don't think it's that green thing that's hanging it up. I think it's up further to the right just a little bit which I'm drifting towards.

PLT Don't go too much further to the right.

CC Rog.

CC Skylab, Houston we're AOS at Goldstone.

CDR Now it's down underneath there where it's hung up.

PLT Do you see that?

PLT Might be.

CDR Along that old pole - old edge. (garble)

CDR Maybe we ought to - -

PLT No, let me trade tools, Joe. I'm trying to get the - - ... I gotta get the ...

CDR I've got a cutoff point here in about 12 minutes.

PLT Then what?

CDR I gotta get the hell back. We'll be in sight.

CC Skylab, Houston we're AOS at Goldstone.

CDR See where that piece comes from.

PLT ... my couch.

PLT B, I'm sure.

SL-II MC-49/2

Time: 19:10 p.m. CDT, 11:10 GMT

5/25/73

PLT Look I see the piece folded up over the
edge with the wires coming out of it.
CDR That's the one I'm talking about.
CDR That's the one I was talking about. It's
green.
SC Yeah ...
CDR Now there's another piece further back
to the right isn't there?
CDR Goddamn, I asked you what's happened?
SPT Can I ask you what is happening?
SPT We're trading tools.
CDR ... for?
SPT Huh?
CDR What are you trading for? The pick?
PLT The prong thing.
CDR All right, that's going to have to be
it, Paul.
PLT I understand.
PLT They aren't maneuvering this son-of-a-bitch
are they?
CDR I don't know.
PLT How're you doin' Joe?
SPT All right, got the one off, got the
other one coming.
CDR Yours is going by. Hey listen we're
running into dark. Pretty fast.
CC Skylab, Houston we're AOS at Goldstone.
How do you read?
CC Skylab, Houston If you read we are
AOS at Goldstone.
PLT Plunger pointed to your right.
CDR Okay.
PLT Have you got a hold of my foot down there?
SPT Yeah.
CDR Just hold the one foot. This one.
SPT I can't hold the foot but I can hold the
knee.
PLT All right that will probably be just
as good for you.
CDR Tell me where to go.
PLT Head for that piece that's wrapped around.
CC Skylab, Houston, if you read we're AOS
at Goldstone.
PLT Do you see that tool?
CDR Yeah.
CDR Take a look at that window. Is that
window clean?
PLT What window?

SL-II MC-49/3

Time: 19:10 p.m. CDT, 11:10 GET

5/25/73

CDR The wardroom window.
PLT Yeah.
CDR You're sure.
PLT Yeah.
CDR No cracks?
PLT No.
CC Skylab Houston, if you read, we're AOS
Goldstone.
CC Skylab, Houston. How do you read?
PLT Better get down a little more, Pete.
PLT Whup, whup, whup - not out - not out.
PLT Hey, that's what's doing it that son-of-
a-bitch is poked in there like it's nailed in.
PLT Wait a minute - hold it - don't go in
any further.
PLT I gotta get my god damned tool out.
PLT Oh shit.
CC Skylab, Houston. How do you read?
PLT That's what's doin it Pete - -
CDR Can you pry it? With a tool?
PLT Stick it in here and bend up?
PLT That's what I was just doing.
CDR I mean pry, you know.
PLT Push up?
PLT I don't have that much control over it
Pete.
PLT Oh shit.
PLT Have you got a hold of my legs Joe?
SPT Yeah.
PLT One of them?
SPT One of them. Good.
CC Skylab, Houston. We're at Goldstone
AOS for 5 minutes.
CDR Okay Houston. How soon to sunset? Quick.
CC Roger. We're 15 minutes from sunset
right now. MARK.
CDR Okay, the little tiny strap which goes
up by the top bench. It's flying around so hard that the screws
in it just riveted into the SAS panel. We pulled as hard
as we could on the end of the SAS panel. We couldn't
get it out right now. We're station-keeping in spite of the
SAS panel - we're all trying to break it loose - the little
tiny strip ... in the - 1/2 an inch wide, but man is it
riveted on.
CC Roger, I understand Pete. And I'll
keep you advised about the time to sunset. Right now we've
got about 4 minutes to LOS and about minutes and 15 seconds

SL-II MC-49/A

Time: 19:10 p.m. CDT, 11:10 GET
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to sunset.

CDR Okay. I'm going to have to quit pretty quick.

PLT Pete?

CDR Yeah.

PLT I hate to say it, but we ain't going to do it with the tools we got.

PLT ...

PLT Don't worry about it.

CDR Back off here.

CDR Well it's better than maneuvering around him.

PLT Where's the ...

PLT It's over to your right.

PLT Joe, if you could just hold the end.

SPT Okay.

PLT I'll take the 2 ... apart.

PLT Okay.

PLT Where do they come apart?

SPT It must be that way.

PLT Okay. It's all yours.

SPT Thank you.

CC Skylab, Houston. We're 13 minutes to sunset.

CDR Got you, 13 minutes to sunset, Houston.

CDR ... watch it you're knocking thruster switches and everything else. Get that pole down out of there.

CDR Okay, Houston, the problem is the tools wouldn't do the job. We're going to have to give up on it, but I really feel bad because it's just one more tiny old 1/2 inch strap. But boy, did it rivet itself to the side of this thing. Hey, Dick.

CC Roger. Go ahead.

PLT What it is is a piece of angle where the sections of the meteoroid shield - - It runs right down next to it. It's wrapped around it just below the uppermost ... module - and it's wrapped around it over the rivet line over to the right to about 2-1/2 feet and that beam does not bend and I can't budge that strap. That ... little strap that's wrapped around it.

SPT What is it that's - - ... Watch it, Joe.

PLT Where's the ATM?

SPT To your right. You're clear to move directly to the right. Right. Okay.

PLT Let me get around and start the hatch in.

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in.

PLT Can I move to my right, Joe?
SPT ...
CDR It is so frustrating to see such a little
tiny thing hold that baby on there.
SPT Yeah.
PLT Darn.
PLT Hey, you got the cue card?
SPT Yep.
CC Skylab, Houston, we're about 11 minutes
and 15 seconds to sunset. We're going to see you at the Van-
guard.

SPT Instructions? I sure don't see any.
SPT Unstow lanyard, pull and close the hatch.
PLT You're going to have to hang on to my
bottom feet there again.

SPT All right.
PLT Shoot. Wait a minute. Just let me
hook them in - -

PLT All right.
SPT I've got one foot between two of my
legs. Now let's see if that works.

SPT Oops, that hit me right in the head.

CDR ...
SPT Nope, wait a minute.

PLT There you go.

SPT Hey, God darn it!

PLT I'm sorry.

SPT No, I know you are. I realize that, but
I can't. It's very hard when you are trying to fly - -

PLT I've got to close this son-of-a-gun ...

PAO This is Skylab Control at loss of signal
from the Texas station, still 14 minutes until acquisition
by the tracking ship Vanguard. Skylab 2 crew apparently un-
successful in bending back the aluminum angle. What Pete Conrad
described as running some 2-1/2 feet and along the edge of the
solar wing beam, that the tools that were carried aboard were
inadequate for removing this rather husky piece of angle. He
was concerned somewhat about the remaining daylight time. Get-
ting down now at about 9 minutes of daylight left on this rev-
olution before the spacecraft crosses into darkness. We'll
listen at the Vanguard pass for any further comments from the
crew on their success or lack thereof in freeing the electrically
electrical generating solar cell wing. At 11:24 ground elapsed
time, this is Skylab Control.

END OF TAPE

1900 1.175 1.175

SL-II KC-50/1

Time: 19:36 CDT 11:36 GET

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PAO This is Skylab Control 11 hours 36 minutes ground elapsed time. Skylab now coming over Vanguard tracking ship, in the southwest Atlantic off the coast of South America. We were reading heart rates on the pilot, Paul Weitz, between 110 and 120. I think the crew is talking now, let's join them.

CDR We're a little over four right now. I've made two attempts to get a soft dock and now I can't get one and we are just about to start through the emergency procedures and stand by for any of your suggestions.

CC Roger Pete, copy.

PLT Okay, let me read you this Pete. The second docking attempt - withdraw to formation distance PROBE EXTEND RELEASE to EXTEND RELEASE for 5 seconds then to RETRACT.

CDR 1, 2, 3, - 5, 6. RETRACT. Okay?

PLT Attempt redocking. Then contact, go plus-X until capture.

CDR Roger, here we go.

CDR I may not have held it 5 seconds.

PLT Hold plus-X until we get capture or a reasonable time.

PLT Get it?

CDR No.

PLT The bugger stayed gray, huh?

CDR Now we got a third and final docking attempt, okay. And you've got positive indication and no capture, right?

PLT Yeah.

CDR Okay. This time ...

CC Skylab, Houston.

CDR ... Go ahead.

CC Skylab, Houston. Just a reminder, you're configured two-jet and you might need four-jet to get there, and capture.

CDR Well I didn't the last time, we'll recycle it again. Let's see EXTEND RELEASE switch for 5 seconds, then 2, through OFF to RETRACT, correct?

PLT I'm going off VOX.

CC Skylab Houston. You might check panel 8 DOCKING PROBE circuit breakers and they should go EXTEND-RELEASE and then RETRACT and get Barber Poles in all positions.

CDR Okay, now, the docking probe circuit breakers are IN. You mean when we get soft capture we should get Barber Poles?

CC That's affirmative.

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CDR Okay.
CDR Well go to 4 jet ullage and we'll
give it a try. When it can be.
CDK We had the breakers out, now shall I
cycle the breakers and go through the whole thing - cycle the
breakers, extend release for 5 seconds, then to retract
4 jet ullage. Okay?
CC Roger Pete, we concur with that pro-
cedure.
CC CDR Houston. One more suggestion on
panel 229, 2 breakers EPS GROUP 4, panel 229.
CDR Okay, 229 EPS GROUP 4. We're checking.
CC Roger.
CDR And they're verified CLOSED.
CC Roger.
CDR Okay Houston, that didn't do it.
CC Roger, copy.
CDR Okay, we're down to the third proce-
dure Houston, about hold the EXTEND RELEASE switch and
then go to RETRACT.
CC Roger, copy Pete.
CC Skylab Houston. We're about 30 seconds
from LOS at Vanguard. We have a potential ARIA pass after
a short break in just a few minutes. And if we miss that
one, we got Hawaii at 12:44.
CDR 12:44 okay. If we miss you at ARIA,
we'll see you in an hour. And I guess we'll try this
third one and I guess the fourth one is another super duper
EVA, right?
PAO This is Skylab Control. We'll leave
the circuit up for any possible communication through the
ARIA aircraft which is flying along the ground track to the
east of the tracking ship Vanguard. If that is unsuccessful,
and we get no communications through this aircraft, we'll
be about an hour before we come up on Hawaii. The orbit
precessing westward all the time takes us off the range and
the tracking stations at this particular time of the or-
bital day are few and far between. The flight controllers
here in the Control room are discussing any possible meth-
ods for trouble shooting the probe and drogue difficulty
in getting the capture and the hard docking. Conrad said
that he would attempt a few more times to hard dock. He's
got another night eighteen minutes of darkness before
coming around in the daylight again. Current orbital
measurements on the command service module perigee 233.9
nautical by 240. Orbital period 1 hour 33 minutes 9 sec-
onds.

END OF TAPE

SL-II MC-51/1

Time: 19:49 CDT 11:49 GET

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PAO Still standing by for a word from the network controller as to whether or not we're receiving a downlink from the spacecraft through the ARIA range aircraft. We'll monitor until the ARIA time has passed.

CC Skylab, Houston. How do you read through ARIA?

CC Skylab, Houston. How do you read through ARIA?

CC Skylab, Houston. How do you read through ARIA?

CC Skylab, Houston. How do you read through ARIA?

(garble)

CC Skylab, Houston. How do you read through ARIA?

PAO This is Skylab Control 12 hours 1 minute, ground elapsed time. Some 44 minutes away from Hawaii tracking station. The crew of Skylab 2 is presently having some difficulty in redocking with the workshop actual docking port. The suggestions made on the ground during the pass over Vanguard tracking ship was that perhaps they needed to go back to four jet on the reaction control system. Four jet maneuvering to drive the spacecraft in somewhat firmer into the probe and drogue. Drive the probe into the drogue assembly in the docking port for more chance of capture, however that procedure, did not, apparently work. During this loss of signal period until Hawaii, Conrad is going to make a couple of more attempts, going through the emergency docking procedures. Alternate schemes are being discussed here in the Control Center, but no prime method of troubleshooting has surfaced yet. It may be some time before the problem is resolved, because of the lack of communications during the time that the spacecraft is on the backside of the orbit, having very few tracking station passes. One scheme that's under discussion, but not by any means decided upon, was for them to go hard suit, that is repressurize the suit loop, depressurize the cabin, remove the hatch, pull in the drogue, and troubleshoot it similar to the way that way that the probe was worked on during Apollo 14, when they had difficulty in initial docking. At 12 hours 3 minutes, ground elapsed time, and 41 minutes away from Hawaii, this is Skylab Control.

END OF TAPE

SL-11 MC-52/1

Time: 20:21 CDT 12:21 GET
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PAO This is Skylab Control, 12 hours 21 minutes ground elapsed time. Skylab Space Station and the Command Service Module of Skylab 2 at last contact attempting to redock with the space station are now over the Asian Continent, some 23 minutes away from acquisition at Hawaii, as the orbits precess westward, we'll have two successive passes across Hawaii and the Vanguard tracking station, those being the only two stations this particular time of the day. At last contact over the Vanguard tracking station the crew of Skylab 2 was having difficulty in redocking. They had made several attempts, and were going down through the backup procedures for retracting and extending the probe. Several suggestions were made from the ground, such as going back to four-jet maneuvering on the reaction control system thrusters, whereas they had been only on two-jet thrusting during the start-up EVA, to prevent the RCS plume from striking the pilot as he stood in the hatch. That is the situation at the moment. The management people and flight controllers are discussing and considering the various alternatives to getting a successful docking. And hopefully at Hawaii acquisition we should have word on whether during the past period of no contact, they have indeed become docked with the space station. 21 minutes remaining until Hawaii acquisition, and 41 minutes remaining of this dayside pass. At 12:24 ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-53/1

Time: 20:37 CFT 12:37 GMT

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PAO This is Skylab Control, 12 hours 37 minutes, ground elapsed time. We're some 8 minutes out of Hawaii on the Skylab 2 eighth Earth orbit. Currently the Command Service Module orbit is 234 nautical miles at perigee by 240 at apogee. Orbital periods still remaining at 1 hour 33 minutes 9 seconds. As we come up on Hawaii, it is hoped that the crew of Skylab 2 has been successful in redocking with the workshop through the actual docking port. Apparently the extended probe was not latching properly to pull the spacecraft into the docking port. And at the present time the crew should be running through back-up procedures to effect a hard docking. Other schemes are under consideration here in the Control Center, should the backup procedures fail to work, including such things as the crew going back into their suits, depressurizing, removing the forward hatch, retracting the drogue, collapsing it, bringing it inside the cabin, and doing some troubleshooting on it before reinstalling it. Also, the systems engineers here are looking at any possible problems in the spacecraft logic circuits, whereby any so-called glitch could be bypassed by closing off certain electrical circuits, circuit breakers. As the evening wears on, we'll eventually sort out what the problem is with the docking system, and now we're 5-1/2 minutes away from acquisition at Hawaii. The workshop cluster and Command Service Module flying across the northern Pacific, just south of the Aleutian Island chain. At 12 hours 40 minutes ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-5A/1

Time: 20:44 CDT 12:44 GET

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PAO This is Skylab Control, 12 hours 43 minutes ground elapsed time. We have had acquisition of signal through the Hawaii tracking station.

CDR Skylab.

CC Roger, Pete. What's your status?

CC Skylab Houston. How do you read? And what's your status please?

CDR Roger, we read you loud and clear. And the status is that we worked our way through the three docking methods and none of them worked. Be advised that on the third method, when we had the switch in EXTEND RETRACT and had the probe and drogue thrusting forward we had barber poles but when we would go to retract I would continue thrusting and they would go gray and we would not get a capture. So we are at this point stationkeeping. Do you read?

CC Skylab Houston. We have got to maneuver the SWS to get out of this attitude. Request you stand off, we're going to have a maneuver time of 10 minutes. The maneuver is going to be a pitch down of about 8 degrees and a roll of about 31 degrees. Over.

CDR Okay, I'd prefer to maneuver right with it, so go ahead.

CC Roger. We'll let you know when we command it.

CDR Okay.

CC And Skylab Houston. We're going to start the command sequence now to do the maneuver.

CDR Okay. Have you got any thoughts on a docking?

CC Affirmative CDR. What we'd like to do first though is we need some more data at high bit rate. Let me make sure we've got it set up here and then I'd like you to go through a short procedure.

CDR Okay.

CC Okay. Pete, here's what we'd like you to do, while we're looking at the data. On panel 8 make sure that the 2 circuit breakers, DOCKING PROBE, MAIN Alpha and MAIN Bravo are CLOSED. We had some static Pete. Did you copy that?

CDR Hello.

CC Roger Pete. Circuit breakers, 2 of them MAIN A MAIN B on panel 8 CLOSED.

CDR Hello Houston.

CC Skylab Houston. How do you read?

CDR Okay, what happened?

CC Roger, we kept dropping out.

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CC Okay, circuit breakers, 2 of them, on
panel 8, DOCKING PROBE, MAIN A and B, make sure they are
OPEN.
CDR Okay, they're open.
CC Okay. We want you to give us a cue and
close MAIN Alpha.
CDR Okay.
CDR MARK, MAIN Alpha.
CC Roger.
CDR Do you want high bit rate?
CC We have it Pete. And now give us a
mark and close MAIN Bravo.
CDR Roger, 3, 2, 1 -
CDR MARK, MAIN Bravo.
CC Roger, okay. Let me tell you these
next few sequences Pete. We're going to want a mark. We
want you to go to EXTEND RELEASE on the EXTEND RELEASE
switch for 5 seconds, then OFF for 3 seconds, then back to
EXTEND RELEASE for 5 seconds and repeat that procedure
3 times. And we need a mark each time. Go ahead.
CDR Okay, coming up, just a second.
CC Okay.
PLT Okay Dick, Pete's maneuvering. I un-
derstand you want to go to EXTEND RELEASE for 5 seconds
and then back to which for 3 seconds?
CC That's OFF for 3 seconds and repeat
that 3 times and be sure and give us a mark as you do it.
PLT Okay. It's in OFF now. I just went
from RETRACT to OFF. Okay, you ready?
CC Affirm.
PLT Okay stand by.
PLT MARK.
PLT MARK, OFF.
PLT MARK, EXTEND RELEASE.
CC Roger.
PLT MARK, OFF.
CC Roger.
PLT MARK, EXTEND RELEASE.
PLT MARK, OFF.
CC Roger. Thank you very much and stand
by. One quick note, we're going to stay on a PET time
scale. The next pass is Vanguard at 13 plus 12. And we've
still got 2-1/2 minutes in this pass.
CDR Okay, you guys got any clue as to what
might have happened? We had a perfectly normal soft dock
and undock and then just nothing.
CC Pete, we are chasing a theory and we
didn't have real good data the time before, but when you
went to extend release before and held it in the extend release
position we saw no increase in current. And we think we
should have seen an increase. One possible cause of this

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Time: 20:44 CDT 12:44 GET
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is that one of the extend motors has failed ON, causing the capture latches to stick in the release position. And based on this data here, we're going to think about it some more. And we are coming up with an alternate procedure.

CDR Okay.

CC Skylab Houston. What we suggest you try is attempt a docking with both circuit breakers pulled. If you get a capture, close one of the circuit breakers and attempt to retract. If that does not work, try the same procedure and use the other circuit breaker. Over.

CDR Okay, understand try a docking with both breakers out. Is that correct? And then capture, one breaker in.

GC That's affirm and then attempt to retract.

CDR Okay.

CC And we're going LOS. We'll see you at Vanguard.

CDR Okay.

CC Skylab Houston. If you are reading, we'd like to delay until Vanguard.

CDR Roger.

PAC This is Skylab Control. We had loss of signal through Hawaii. Twenty minutes out of Vanguard tracking ship. On the 8th revolution of Skylab II. One conjecture here on the ground was that one of the motors in the probe which extends the probe had possibly failed while running. Or failed ON. And that the capture latches had stayed open instead of in the cocked position. Toward the end of that pass, a procedure was read up to the crew in which they would open some circuit breakers, extend the probe, attempt to capture, and then reclose the breakers. We'll come up again over Vanguard to see if this method is successful in completing the hard docking of Skylab II to the space station. Toward the very tail end of that pass, because of some qualms on the part of the spacecraft engineer they asked them to hold off on that procedure until Vanguard. And we think we got an acknowledgement from Pete Conrad that he would hold off. Eighteen minutes away from Vanguard at 12:55 ground elapsed time. This is Skylab Control.

END OF TAPE

ATTEMPT TO DOCK

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PAO This is Skylab Control, 13 hours 12 minutes ground elapsed time. Skylab workshop and Command Service Module nearing the end of revolution number eight, should be crossing over into the acquisition circle of the tracking ship Vanguard. We'll stand by now for further conversation on the problems in redocking with the workshop. And the Capcom has still another procedure to be read up to the crew on possible means of working around the apparent failure of the docking probe to capture properly, the latches to capture. We'll stand by for this pass, which lasts for almost 10 minutes.

CC Skylab, Houston, we're AOS at Vanguard.
How do you read?

CDR Okay. We're loud and clear here.

CC Okay, Pete. Let me read you this procedure. I assume you did not try it after we went LOS last time.

CDR No. You said not to.

CC And Pete, we want to confirm you're a little bit away from the SWS, because we are going to have to be doing a little commanding.

CDR Well, it's night, Ed, what do you want to do?

CDR Now, what are you gonna do?

CC CDR, Houston. We do not expect any maneuvering. We are going to reconfigure the RATE GYROs, and I have a procedure I'd like to read to you.

CDR Okay. Go ahead.

CC Okay. Here's what we want you to try on Panel 8. Circuit breakers DOCK and PROBE, two of them to OPEN. With them both OPEN, attempt the docking, using plus-X for 5 seconds after contact. If you get a capture, on Panel 6, the MAIN Alpha circuit breaker, CLOSE. If no barber pole, try minus-X for 2 seconds. If that confirms that you are captured, hard dock, using system Alpha. You still with me so far?

CDR Yep.

CC Okay. Then if that releases -

CDR Wait - Wait

SPT This is Joe. When we open the circuit breakers, what position should the EXTEND RELEASE switch be in. I assume it should be in RETRACT. I want to make sure that sequence is right.

CC Stand by. That's affirmative, Joe, retract is the proper position.

SPT Okay, it's in RETRACT, no wait, it was in OFF, we just put it to RETRACT, with the breakers OPEN.

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Is that acceptable? No, Pete says he just closed them and opened them again, so press on.

CC Okay, we want it in retract and that follow that procedure. Okay, if after that procedure, you release from the workshop, we want you to go back and open the MAIN Alpha circuit breaker. Now we've got both circuit breakers open, and try the same procedure. Attempt docking plus-X 5 seconds after contact. If you get a capture, close the MAIN Bravo circuit breaker, no barber pole, minus-X 2 seconds. If captured, hard dock system Bravo. Got that?

CDR Copy.

CC Okay.

CDR Is it all right for us to give it a go right now. Negative, Pete, we've got a little more talking we'd like to give - to do to you.

CDR Ch, Okay. Go ahead.

CC Okay. In the event that this procedure does not work with all tries, we have really two choices. We can go ahead into a final docking attempt, which involves EVA, or we can work up a procedure so that you can stand off for the night and we'll regroup in the morning. And in the event you want to try the final docking attempt, Rusty's in here, and he wants to read up a few words about how that would be done. We have still 6 minutes left in this pass. Over.

CDR Okay. Let him talk.

MCC Okay, Pete, I'm on Systems 2-1 at Final Docking Attempt under Pyro Cover Removal.

CDR Okay, wait 1.

SPT Go ahead, Rusty.

MCC Okay, just a word on what it is we're doing here. You'll notice down there under "don helmet and gloves", and "suit circuit integrity check," et cetera, that it refers to systems checklist procedures. Those procedures assume a rather basic command module configuration. What we're going to do is redo - just give you the reference here in the SEVA thing that you just did, which are the equivalent, and will save you time.

CDR Go ahead.

MCC Okay, by the way the word just came up that you are cleared to attempt your docking at this time if you want, and you let me know if you want me to read this next three or four lines to you while you're trying that.

SPT Keep going, Rusty.

MCC Okay, Joe. Under "apply anti-fog" Okay? We want to write in "systems prep for depress SEVA L 1-4."

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MCC Okay, delete the "apply antifog" for that matter, and have you removed helmets and gloves?

SPT Yes, we have.

MCC Fine, and place under "suit circuit integrity check", scratch "S1-11", and put in "SEVA 1.1-6."

SPT Okay.

MCC Okay, next line scratch "systems 1-12" and in place of it "SEVA 1.1-8."

SPT Okay.

MCC Okay, next page, under "cabin repress," scratch "systems 1-10", put in "SEVA 1.1-10."

SPT Got you.

MCC Under "doff helmet and gloves" - "SEVA 1.1-13."

SPT Okay, now stand by.

SPT Houston, Skylab.

MCC Go ahead.

SPT We went with both breakers pulled and contact plus-X for 5 seconds, and we did not close the Main A breaker. Should we close the MAIN A breaker during thrusting?

MCC That's negative.

SPT Okay, I didn't think so, but, we just tried it. It didn't work.

MCC Roger. The answer is that that procedure is not going to work. Stand by 1.

SPT Okay.

MCC Okay, Joe. the final line there. Let me give you that. It's to scratch the next line on 2-2. In other words scratch "command module O2 supply refill" entirely.

SPT Okay.

CDR Okay, Houston, you're telling me that both breakers OUT, no capture, that's it, huh?

MCC That's affirmative. It looks like final docking attempt is next. That's your choice Pete. We'll have a MANEUVER for you over Hawaii if you want to stand off tonight, which means you can wait for about an hour with no activity, or you can attempt final docking. ... Okay the maneuver will not be accomplished until after next Vanguard. That's an hour and a half. We'll get it to you over Hawaii. Maneuver to be accomplished next Vanguard.

CDR Okay, well I guess we might as well go ahead and try the EVA. Because if we ain't docked after that, I think you guys have run out of ideas, haven't you?

MCC Stand by just 1, Pete.

CC CDR, Houston. We have one more attempt that you might try. If you bring descent 2 on the line, you get more voltage, and then go to extend release, and then try a normal docking.

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SPT Does it matter whether you want it on
main A or main B, Dick?

CC Both of them.

SPT Okay, you want decent 2 on both buses.

CC That's affirm. Be advised we are going
to try to have an ARIA pass in a few minutes, but if we
miss that one, we'll see you at Hawaii at 14:18. Take the
battery off if that procedure does not work.

CDR Wilco.

CC Okay. ...

PAO This is Skylab Control, 13 hours 23
minutes, ground elapsed time. Almost an hour to Hawaii.
Still unsuccessful in redocking with the space station
Skylab 1. At loss of signal over the Vanguard tracking
ship still another procedure was passed up to the crew,
by which they would bring one of the batteries, descent
battery number 2, which is one of the supplemental
power supplies in the service module - will be brought on
both buses, both DC buses to increase the voltage on the
probe extend motor, and perhaps by this means the probe would
be extended to such a position to enhance the probability
of capture. Other possibilities that are being considered
are the earlier mentioned, so-called EVA, in which the
spacecraft could be depressurized and the crewmen in hard
suits, the probe removed, brought down into the cabin and
troubleshoot there. The other alternative would be, since
we are moving pretty much off the range for the night
period for the CSM to stand off for the night and regroup
during the day tomorrow, when we have more continuous tracking
during the earlier part of the day. The orbit is preset
far enough westward now to where we get one, perhaps two,
tracking stations each orbit, or each hour and a half. We
are attempting now to raise the spacecraft through the ARIA.
We'll stand by through this attempt, but it's unlikely that
we will have contact.

CC CDR, Houston. I think I got a response.
How do you read through ARIA? Over.

END OF TAPE

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CC CDR, Houston. I think I got a response.
How do you read through ARIA? Over.
CC Skylab, Houston through ARIA VHF, how
do you read?
CDR ...
CC Skylab, Houston. How do you read through
ARIA?
PLT ... helmet and gloves, right?
PLT And I bet you don't want your SEVA.
CDR ...
PLT Here's your other glove, Pete.
SC That's fine.
SPT I can't ... up in the tunnel - -
SC Oh yeah.
PLT I figured Sim Sup would leave us alone.
SC ... I don't think I do.
SC I'll verify that in a second.
SC The probe cover is right there at
the fucking bottom of the ...
SC Oh boy, well - -
SC There that's kind of out of the way.
SC Put your feet down in here.
CC Skylab, Houston through ARIA. Do you
read?
CDR Houston, I read you 3 by 3. We were
still unsuccessful in the other attempts.
CC Roger, Pete. Understand.
CDR You were prompted to do the - the
... back into the probe cover, now. We'll do a little EVA
here in a minute.
CC Roger, Pete. Copy.
CC And Skylab, Houston be advised comm is
extremely poor on this end and we still have about 5 or 6
minutes left in the pass and we're just standing by.
CDR Okay, Houston. We're gonna try and
have this completed one way or another for a SEP maneuver in
about an hour and a half. Is that correct?
CDR Houston, do you read?
CC Skylab, Houston, if you read, the SEP
maneuver time that we've figured out is at a time 15 plus 20.
CDR 15 plus 20. Roger.
CC Roger.
CC I can't - -
CC Oh yeah, I do get it.
SC Now, how about the - -
SC Yeah, okay.
SC Right. There really ... I've got

SL-II MC-56/2

Time: 21:26 p.m. CDT, 13:26 GET
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plenty of - - plenty of length on the hose if I can possibly
... (garble)

SC All right.

SC All right. I've got my tool ...
going in across right there. And it's the most thing I need
while - - my ...

SC Right, Pete?

PLT Probably best if Paul does again.

SPT I'm on ...

PLT Okay. ... Can you figure it

out Paul?

SPT There you are.

CC Skylab, Houston. How do you read through

ARIA now?

CC Skylab, Houston we're still standing
by in the blind from ARIA.

END OF TAPE

SL-II MC-57/1

Time: 21:40 CDT 13:40 GET

5/25/73

PAO This is Skylab Control at 13 hours 40 minutes ground elapsed time. Rather noisy communications through the ARIA aircraft. Some few words came through all that noise. And one comment from the crew was that a wish " I wish sim sup would leave us alone" referring to simulation supervisor, who is sort of a devil's advocate who harrasses the flight controllers and the flight crew during simulations here prelaunch in the Control Center and over in the training building. Right now the current scheme for trying to effect a successful docking is for the crew go hard suit, which they're presently doing donning, redonning the helmets and gloves, depressurizing the command module, removing the forward hatch, hot wiring the retract mechanism with a cable to retract the probe back to a short position. As it is now, it is extended too far, and is acting as a standoff obstruction. Retract the drogue back to the proper length, move in on the docking collar and at which time the 12 latches would trip, and hopefully we would have a hard docking. Should this be unsuccessful, the next remaining scheme is to do a standoff maneuver or separation maneuver at approximately 15 hours 20 minutes ground elapsed time to wait the night when the orbit moves back over more suitable tracking over the states, the Australian stations, the Canary and Madrid stations during the day tomorrow to further trouble shoot the problem. AOS in Hawaii in some 36 minutes. At 13:43, this is Skylab Control.

END OF TAPE

SL-II MC-58/1

Time: 22:02 CDT 14:02 GET

5/25/73

PAO This is Skylab Control at 14 hours 2 minutes ground elapsed time. The Skylab II mission at this time still attempting to redock with the workshop. The procedure being pursued at this time is one in which the spacecraft is depressurized, the forward tunnel hatch removed, the docking probe retracted by hot wiring around a suspected short in which it is assumed the extending motor or the probe motor failed in the on while running. And by retracting the probe, the probability of getting a hard dock is somewhat enhanced. Here in the Control Center, there is a considerable amount of discussion by different groups. Little huddles around the Control Room. Both Flight Directors, Don Puddy and Phil Shaffer are still on duty. Huddled around the spacecraft communicator are Capcom console are Dick Truly who is the active Capcom at the moment, assisted by Rusty Schweigert. Practically all of the Skylab top management is in the room. Skylab Program Director Bill Schneider, Marshall Space Flight Center Program Skylab Program Manager, Leland Belew, Johnson Space Center Skylab Manager Kenneth S. Kleinknecht JSC Director, Chris Craft, Director of Flight Operations at JSC Bill Tendle, Deke Slayton, astronauts Bob Crippen and Bill Thornton, Bruce McCandless others who are hopeful of seeing a successful docking before too long. Spacecraft is presently over mainland China and 15 minutes out of acquisition by Hawaii. At 14:05 ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-59/1
Time: 22:19 p.m. CDT, 14:19 GET
5/25/73

PAO This is Skylab Control, 14 hours 18 minutes ground elapsed time. Slightly over a minute to acquisition through the Hawaii tracking station which appears to be the final Hawaii pass of the evening. Next rev will only have Vanguard and Ascension. We're starting to get VOX through Hawaii from the crew. They're on the VOX mode apparently. We'll stand by for the two-way communications between spacecraft communicator Dick Truly and the crew of Skylab 2.

PLT Oh shit, no. I mean if we get them, great, but we won't get em.

CC Skylab, Houston we're AOS at Hawaii.

CDR Roger, Houston. You - we've done our second EVA and we have gotten probe ... the docking mechanism - we have removed the screw which unfortunately is now in orbit. But we have the probe cover off and the Apollo cover, and we are just reviewing the procedures. For your information, it is extremely hard to ... it's not bright enough for me to get a good alignment, so unless you want me to try this procedure over your station, I was going to wait until nighttime when I have an excellent alignment.

PLT Channel 15 - -

CC Roger, we copy Pete. Stand by.

CC And CDR, Houston. We want you to be lined up as well as you can for the procedures so you can wait til night time to do that if necessary.

CDR Okay, and we are configuring the wiring for that right at this moment.

CC Roger.

CDR And, then what kind of a maneuver are you figuring if we don't manage to get this thing done?

CC Roger, CDR I have 2 pads for you. Essentially what they are is - are 2 maneuvers - 1 posigrade about 5 feet per second and then 1 rev later, a retrograde maneuver of about 5 feet per second. This will give you plenty of separation for the night and a very small TPI burn tomorrow which will end up in a final phase rendezvous that's with lighting and approach angles at nominal. Over.

CDR Okay.

CC And if you'd like to copy the pads down here at Hawaii in the event of an unsuccessful docking attempt, I'll be glad to do it.

PLT I'm doing these goobers again - -

CDR Yeah, and if I can - -

PLT I'm getting it ready for you to read.

CDR Oh. Have you got a book Joe?

SPT No, no, no.

SL-II MC-59/2

Time: 22:19 p.m. CDT, 14:19 GET
5/25/73

CC Pete, it's a G&C checklist page 5-1.
CDR Okay, just a second.
CDR Go ahead, Houston.
CC Roger. First, I'll read you the pozi-
grade maneuver down to 33. 0152 00000 plus 0050 plus 4 balls
plus 4 balls 359 240 000 0050 0012 and Delta-V 70 NA. Go ahead.
CDR 01520 4 balls plus 0050 all balls all
balls 359240 all balls 0050 00012.
CC That's affirm. The weight for this
maneuver is 28911 and it's 4 jet plus X on the PSM.
CDR Four jet PSM 2891
CC Roger, and now I have the second the
retrograde maneuver if you're ready to copy.
CDR Go ahead.
CC 016 53 1800 minus 0050 plus 4 balls
plus 4 balls 182 060 000 0050 0012 go ahead.
CDR 165318 00 minus 0050 plus all balls
plus all balls 182 060 000 0050 0012.
CC Roger, Pete. The weight for this one
is 28894 again it's 4 jet plus X PSM and for your information
tomorrow the TPI will be at approximately - a time of approxi-
mately 28 plus 08. The Delta-V will be about 7 feet per second.
This will allow transfer angle of about 300 degrees which will
be a long time from TPI to the mid-courses. The breaking
Delta-V's will be about 7 feet per second and the final phase
of the rendezvous will be nominal. Over.
CDR Got it. 28 plus 08 Delta-V that's 7
feet 300 degree transfer 7 foot per second breaking with a
nominal final phase.
CC Okay, real good Pete. She's still got
4-1/2 minutes before LOS at Hawaii and be advised we're about
13 minutes until sunset.
CDR Okay, what's our next station?
CC Next station is Vanguard and stand by
for a time.
CC Skylab, Houston requests cabin read
press valve to off. The cabin is nominal.
CDR You're 30 seconds late. We just turned
it off.
CC (Laughter) Roger. You're ahead.
CC And CDR, Houston the time at the Van-
guard is 14 plus 52. We've looked at the bird and you are
GO when you get into darkness so when you like, attempt a
docking. You've got about 11 minutes left to sunset.
CDR Okay, I can see a final line much better
at night. The ... is just not bright enough against the
FDA to get at it. Good attitude, so, surprisingly enough the

SL-II MC-59/3

Time: 22:19 p.m. CDT, 14:19 GET
5/25/73

spotlight is excellent and we've had no problem whatsoever with night station-keeping.

CC Roger, Pete. I understand.

CDR And are you maneuvering the Bird by any chance?

CC Stand by 1.

CC Negative. We're not.

CDR Okay ... Houston. Are you there?

CC Affirm Pete. We're still here for 45 seconds and then we'll see you at Vanguard at 52 go ahead.

CDR Which box is B box? We've - I believe it's the upper box or the lower box?

CC Stand by.

CC Skylab, Houston. The lower box is system B box.

CDR Lower box is B box. Roger.

CC Roger.

PAO This is Skylab Control. Spacecraft Commander aboard Skylab 2, Pete Conrad voiced a preference for attempting the latest docking maneuver after he passes into darkness. He says that the visibility with the spotlight and with the docking aids on the docking adapter are really better on the nightside than they are on the dayside of the orbit. The cabin pressure is risen back to a normal pressure, approximately 5 pounds. The crew had removed the forward hatch, hotwired the probe to retract it and will attempt docking shortly after passing into the night side in about 6 minutes from now over the Vanguard station. In 18 minutes we should hear a report from the crew on how well that went. This particular revolution, the Vanguard is the only station that will have the spacecraft. We cross Vanguard in approximately 18 minutes and then again in an hour and 56 minutes. We'll be moving on the backside of the range. We'll come up again with the progress of the most recent docking attempt by Skylab 2, the hard-dock with the Skylab space station in approximately 7 minutes over the tracking ship Vanguard. At 14:33 ground elapsed time, this is Skylab Control.

END OF TAPE

HARD DOCK

SL-II MC-60/1

Time: 22:50 CDT 14:50 GET
5/25/73

PAO This is Skylab Control at 14 hours 50 minutes ground elapsed time. About a minute 50 seconds until acquisition at the Vanguard tracking ship, which is stationed off the southeast coast of South America. And hopefully we will have a positive statement from the crew that they have been successful in docking after the last procedure that they went through. Failing that, it looks like they go through a standoff maneuver for the evening, and regroup tomorrow for further docking attempts. We'll wait and see what happens here over Vanguard. The Vanguard pass will last almost 8 minutes and the next station after Vanguard will be Vanguard again, an hour and 38 minutes from now. We'll stand by for the first call from space-craft communicator to the crew of Skylab II. We've had AOS.

CC Skylab Houston through the Vanguard.
How do you read?

CDR We got a hard dock out of it!

CC Way to go.

PAO Considerable applause here on the report of hard docking.

CDR ... we got a tunnel integrity check in the work right now.

CC Hey, way to go. Good show.

CDR You can tell sim sup that we really would sure like to get some ... out of this thing after a while.

CC You can bet your life I will Pete.

CDR We're starting our quiescent switch configuration with the notes that you gave me some where back day before yesterday it seems like.

CC Stand by for one on the quiescent check please, Pete.

CC CDR Houston. We've got 6 minutes left in this pass. We do have about an hour and a half a whole rev before we get Vanguard back again. I do have just a few short notes that might help you go through the checklist for the post docking this evening. Over.

CDR Fire away.

CC Okay, the first of course is get through the post docking work. And I'm not sure what of this you've done on the SEVA checklist on page L/Delta. Then go through the helmets gloves and PGA docking and stowage and that is on pages L/1-13, L/1-14 and 15 in the SEVA section.

CDR Okay.

SL-II MC-60/2

Time: 22:50 CDT 14:50 GET

5/25/73

CC Okay, following that Pete, go through the presleep activity on SEVA section page L/Foxtrot. And we want to add one additional step in the presleep activity. We need to replace system Alfa LIOH canister, it's in Alfa 4 and stow the used canister back in Alfa 4. Over.

CDR Okay. System A is the top system, right?

CC That's affirmative Pete.

CDR Okay, look we've had our problems and you've had your problems so we'll probably press on to get this thing completely configured according to the checklist that you gave us. We have eaten dinner, so whenever we get this thing done, we'll get to bed and press on first thing in the morning. I would, because of the docking like to go ahead, if we've got a good tunnel and verify all latches. It sounded to me like we got at least 10. But I would like to verify them and then we'll put the hatch back in and go to bed. Do you concur with it?

CC Stand by one.

CC Okay, you tell them you got anything else other than that you want to do tonight? Well he does that as far as the list.

CC CDR Houston. On your question, we do concur that if you have a good hatch integrity check to verify the docking latches. Also one thing we want to be sure to catch is a fuel cell reactants valves to unlatch in a normal. And be advised that we will be going back to CMG control on the SWS. We expect you may get a little bit of movement out of it but we want to get out of TACS only.

CDR Okay sir it is all yours.

CC Roger that.

CC Skylab Houston.

CDR Go ahead Houston.

CC Okay, Pete. One thing in the checklist that we were going to read you and just never had time and got in a hassle. During the quiescent panel check on panel 201, we do not want to inhibit items 9 Alfa Charlie and Delta. Over.

CDR Do not inhibit 9 Alfa Charlie and Delta.

CC That's right Pete. And where we're looking at our time line, we expect bed time will be some where around 18 hours or a little bit sooner and we think that ought to give us plenty of time to call you on this next Vanguard pass next time around, which is about an hour and a half from now, and if you don't have any objec-

SL-II MC-60/3

Time: 22:50 CDT 14:50 GET
5/25/73

tions we're going to call you at that pass and that will probably be the last AOS today.

CDR Yes sir, we'll see how much we can get done in the next hour and a half.

CC Okay real fine. We're about 30 seconds from LOS now and we'll see you at Vanguard next time around.

CDR Okay, sure glad we practiced those procedures on that probe.

CC Yes sir, looking good.

PAO This is Skylab Control at 15 hours ground elapsed time. We've had loss of signal out of the Vanguard tracking station. It's unlikely we will continue to pick up communications through the ARIA aircraft out east of Vanguard. The attempt at docking, hard docking was indeed successful. The crew believes that 10 of the 12 main latches did fire. They're proceeding with the tunnel pressure integrity check and going through their presleep checklist. There will be one more call in an hour and 30 minutes from now over Vanguard again. Then the crew will go to bed, and proceed with the days work tomorrow. Or going into the workshop and deploying the parasol thermal shield. At 15 hours 2 minutes ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-61/1

Time: 23:27 CDT 15:26 CET
5/25/73

PAO This is Skylab Control 15 hours 26 minutes ground elapse time in the Skylab 2 mission. The Skylab space station, with a successfully docked Command Service Module is presently over the Arabian Peninsula, and an hour and 3 minutes out of Vanguard for the final communications of the evening, which will consist primarily of a status report on the presleep checklist and the final goodnight of the evening. In 10 or 15 minutes, a press conference will be held in the Johnson Space Center news room, small briefing room. Participants being, Mr. Bill Schneider, Skylab Program Director, NASA headquarters, The two Manned Space Flight Center Skylab Program Managers, Kenny Kleinknecht from Johnson Space Center, and Leland Belew from Marshall Space Flight Center. They should be arriving within the next 10 minutes, and at 15:27 ground elapsed time, this is Skylab Control.

END OF TAPE

SL-II MC-62/1

Time: 00:27 a.m. CDT, 16:27 GET

5/26/73

FAO This is Skylab Control at 5 hours 27 minutes 54 seconds Greenwich mean time. We can hear the horn buzzing in Mission Control to announce acquisition of signal coming up in a little under 2 minutes. We'll have acquisition of signal at Vanguard. This period of pass is approximately 10 minutes and 17 seconds, and after that there will be another opportunity at Ascension at approximately 3 minutes later. At this time it appears that we'll not use that opportunity, that they'll allow the crew to go to sleep immediately after the Vanguard pass. That's still open however, at this time. Among the instructions we passed up - in this coming pass by the CAP COM are instructions to reset the clock that they're using now - the G.E.T. or ground elapsed time clock which will be reading 17:00 hours on the next even hour. They will reset that clock to read 06:00 Greenwich mean time and from now on the mission will be conducted on Greenwich mean time. They also will give instructions to the crew to go to sleep within the next hour before 17:00 GET or 6 o'clock Greenwich mean time and their wake-up will be left open. They can wake up whenever they like. At any case they expect to wake up no earlier than 9 a.m. central daylight time. There will not be a wake-up call given from the ground if present plans are continued. There are two reset maneuvers being scheduled during the night and the crew will be informed about this. The first reset maneuver may take place right immediately after the Vanguard pass at Ascension. That still is - has not been computed completely and they're going to try and compute that in time and let the crew know what - the exact details that reset maneuver will be. We're going to have acquisition of signal very shortly and you can listen in for the - - This is Skylab Control.

CC Skylab, Houston. We're AOS over Vanguard for the next 11 minutes.

PAO We have AOS.

CC 10 minutes for the next 10 minutes.

CC Skylab, Houston. We're AOS over Vanguard for the next 9 minutes. How do you read?

PAO We're trying to acquire the CSM on voice.

CC Skylab, Houston. We're AOS over Vanguard for the next 8 minutes. Over.

CC Skylab, Houston over Vanguard for the next 7 minutes. How do you read? Over.

CDR ...

CC Roger, Pete. You were a little bit garbled there. For your information I've got a few messages for you I'd like to give if you can copy.

PLT Okay, Houston.

CC Roger. Fine job today, Pete. Number 1

SL-11 MC-62/2

Time: 00:27 a.m. CDT. 16:27 GET
5/26/73

I guess - -

PLT Okay, this is Paul, ready to copy.
CC Number one, I guess we'd like to get
over for G.m.t. so your checklist tomorrow will give you some
good AOS times. We'd like you to set 17:00 GET, or BET rather,
to set time at 06:00 G.m.t.

CC Did you copy, Paul?

CC Skylab, Houston. How do you read?

CC Skylab, Houston. How do you read?

PLT Loud and clear now.

CC Okey doke, we lost you there for awhile.

Did you get the time set at 17:00 BET time will be 06:00 G.m.t.?

PLT No, we didn't get any of your messages
at all, Bob. As soon as you said you had messages for us, you
quit.

CC Okay. Let's try it again. We would like
to give you - set your timer so you can go back to G.m.t. and
at 17:00 elapsed time the time will be 06:00 G.m.t.

PLT Okay.

CC Okey dokey. And we would also like if
you got time meal status for day 1.

CC Okay. We would also like to insure that
VHF A and B are OFF before going to sleep.

PLT Okay, we had them OFF and then I noticed
that I had a barber pole in a power amplifier. And I'm still
not sure what games that those guys can play with it down there
so we left B DUPLEX UP just to make sure he wouldn't be able
to get ahold of it. That's why it's ON now.

CC Okay. Okay, we're taking care of that.
You can turn VHF A and B OFF.

CDR Okay, Bob, and for your information the
CDR ate everything.

CC All right. Okey doke, Roger.

PLT The PLT dipped the first spoonful of
his asparagus was half wood, so I only ate about one-third
of it, mostly the non-woody part.

CC Rog.

PLT The SPT said he ate everything. I'm going
to have eaten everything else, Bob.

CC Okay, very good. Thank you, Paul.

CDR Okay. We have the LiOH canister changed
out. We've done the quiescent switch checklist. We got a
couple of questions for you. What mode would you like to leave
the computer in - you want to leave it in POO and ACCEPT? And
while you're answering that one - let me - we had one on whether
we're supposed to use this max power down. Do you want that
or not?

SL-II MC-62/3

Time: 00:27 a.m. CDT, 16:27 CET
5/26/73

CC Stand by 1. We do want the computer left in POO and ACCEPT.

CDR Okay, the computer's in FOO and ACCEPT - and on the max power down we've stopped most of that, but there are a couple of things that we have not done. Like, do you want the E/P spectrometer off?

CC Okay, Pete. They really didn't want you to do the max power down, but ...

PLT RCS quad Bravo temperature indicates off-scale high, associated CAUTION. At first we didn't know if it was real or not. We ... 2 - turned those heaters off on Bravo and I assume that it's safe to turn them back on again.

CC Rog. I didn't get the which C&W you had there, Paul.

PLT RCS quad Bravo.

CC Rog.

PLT And the reason we got - the reason we got it was for temperature - that it was high at the time and now it's off-scale high.

CC Rog. Copy.

CC We would like to - -

PLT Go ahead.

CC Okay. We had not planned to give you a call over the ground station, however there's several messages here that we probably ought to talk about. So we are about a minute and one half to LOS and we'll have you again at Ascension and at 16:43. I'll go ahead and hit you with a couple of things here. They would like you to back out of that MAX POWER DOWN if you could and just have the quiescent POWER DOWN.

PLT Okay. I think we can sort that out.

CC Okay dokey.

PLT Yeah, also, I got a popped circuit breaker I want to talk about next time on panel 5. It's last one in the second row, UTILITY. We're R/L station MAIN A.

CC Rog. I understand that one's popped.

CDR Well, we reset it but that's the one that feeds the backup way that we got docked and we think it probably popped when we docked.

CC Okay, but it did reset okay. Is that correct?

PLT Yeah.

CC Can you tell us whether you used A or B system for docking?

CDR Bravo.

CC Rog. Copy, Bravo.

CDR The bottom one in the panel I believe.

SL-II MC-62/4

Time: 00:27 a.m. CDT, 16:27 GET
5/26/73

CC Rog. Okay, we're just about to go LOS here. By the way wake-up tomorrow is going to be open-ended. You give us a call.

MS

Yea.

CDR Okay, that's good because look we got about another hour at least in here. Man, this place looks like somebody blew through here with a tornado.

CC

I think you guys earned a good night's sleep.

CDR

We'll be around for at least another hour and a half I think.

CC

Rog. We were going to end up doing a CMG reset at the next station pass and that's going to move the vehicle around a little bit.

CDR

Well we notice ... up here a little bit.

CC

Okay, you have got a slight maneuver going on now, but that's not a reset. We're trying to get back ...

PAO

We have LOS. We've have our next acquisition of signal in about 2 minutes and 17 seconds and the crew will be again given further information about maneuvers. We'll be on for about 2 minutes.

END OF TAPE

SL-II MC-63/1
Time: 00:43 CDT 16:43 GET
5/25/73

CC We have acquisition of telemetry data and we expect acquisition any moment now.

CC We are AOS over Ascension for the 10 minutes for the next 10 minutes.

PLT Okay, we are backing out of this low power thing.

CC Rog, understand. And I guess you got your flight plan there with you and it did have exceptions listed on the quiescent time line. That's in your SEVA checklist.

CDR - - too but he also had the max power down and I wasn't sure which one you wanted, so I went into that and we'll be out in a minute.

CC Roger, understand.

CC Rog, the exceptions are listed in SEVA L-E.

CDR Right.

CC And we are going to be starting the CMG reset routine very soon, and it's going to cause the vehicle to move around, oh a good little bit. This one is going to be kind of small, it can't be large. For your information, we are probably going to have to do another one of these tonight before you wake up. We've been having to do them about every 4 to 8 hours.

CDR Okay.

CC And Skylab, we would like you to select secondary package heaters on quad Bravo.

CDR Okay, everything works.

PLT Well we've got the package heater and we've got the quad heater. Do you want them both to go to 2 and secondary as appropriate?

CC Pete, that was a little bit garbled on did you understand it on quad Bravo. We wanted the package heaters to secondary.

CDR Okay, the package heaters to secondary.

CC Rog.

PLT Okay except that's what's confusing, Crip. We got two sets of heaters. One for the package and one for the quad.

CC Rog. It is the package.

PLT Well the backup one for the package is two and the backup one for the quad is second. So you want the package heater to 2 and the quad heater left in primary. Is that right?

CC That is affirmative.

CDR Okay, and by going to the caution warning, it was a package indication that was tripping it.

CC Rog, understand.

SL-11 MC-63/2
Time: 00:43 CDT 16:43 GET
5/25/73

CDR Say, Crip, we did have to dump urine once today, which I believe we reported. The time that we did it all three crew members other wise we have collected all the rest of it onboard.

CC Roger, copy.

CC Skylab Houston. We still have about 6 minutes left in this pass. The next pass is going to be over Guam at 17:27 elapsed time and that will 06:27. I guess our intent now is not to give you a call there.

CDR Okay.

CC Skylab Houston. I guess tomorrow morning, what you can do is on your activation checklist pick out a site to give us a call when you're awake and want to go to work.

CDR Okay.

CC Skylab Houston. We're 1 minute to LO; over Ascension and we'll see you manana. That pass over Guam, in case you need us is at 06:27 GMT.

CDR 06:27, Okay, thank you.

PAO This is Skylab Control. We have loss of signal now at Ascension. The spacecraft is now passing to the northeast over Africa on rev 167. Our next chance for signal will be, as the Capcom indicated, in about 33 minutes and 40 seconds from now at Guam. And we expect to have no communication from the spacecraft at that time unless the crew has something they would like to say to the ground. They did indicate at Vanguard that they did not expect to be asleep by 1:00 a.m. central daylight time as they were to be instructed to go to sleep. They may be up a little later, you may hear from them at Guam. We're not quite certain about that. They are expecting to go to bed as soon as possible and will get up probably get up no earlier than 9:00 a.m. central daylight time tomorrow. They will not be awakened from the ground. They will give a call to the ground from their headsets whenever they are ready to get up and go to work. This is about an hour and a half, the 9:00 a.m. minimum sleep time will make it about an hour and a half later than the flight plan that was set up premission. That's to give them time to get plenty of rest after a very hard day. This is Skylab Control at 5 hours 54 minutes and 50 seconds Greenwich mean time.

END OF TAPE

SL-11 MC 64/1

Time: 01:25 CDT 17:25 GET
5/25/73

PAO This is Skylab Control. We again have the horn sounding in Mission Control, 2 minutes coming up for opportunity for acquisition of signal at Guam. The space station at this time is on its 167th revolution on a descending node, passing over Japan. And we're about 1-1/2 minutes from acquisition of signal. This acquisition of signal may not actually indicate any sort of discussion between the crew and ground. We don't know one way or the other whether the crew will still be awake. We will, however, be getting telemetry data. And we may hear something from the crew, since they indicated they may not yet be asleep. We have 1 minute and 20 seconds to acquisition of signal.

PAO Skylab Control. We have 55 seconds to acquisition of signal. The crew is now operating on Greenwich mean time. They have reset their clocks at 1700 hours ground elapsed time to the Greenwich mean time 600 hours. They are now going to be getting all times in Greenwich mean time. At 06:26:49 Greenwich mean time, we have 38 seconds to acquisition of signal.

PAO We have telemetry acquisition of signal. And we should have voice acquisition of signal shortly.

PAO AOS.

MCC Guam tech. Comm Tech, Houston, take net one for a voice check.

MCC Guam, Comm Tech

MCC Roger.

PAO We have indications that the crew is attempting -

MCC Guam station, do you read. Over.

CDR Affirmative Guam. loud and clear.

MCC We have a communications problem between the tracking station and the network, and we'll be back with you as soon as we reestablish.

CC Skylab, Houston. How do you read.

CDR Loud and Clear.

CC Okay. Read you loud and clear.

CDR Hey, we finished chlorinating the water. P.J. Weitz is sliding into his sleeping bag, along with Pete Conrad and Joe Kerwin. We're just about to bed out.

CC Very good. Anything else we can do for you tonight?

CDR No. We did have a question. We have turned the potable water tank on not for any other reason than it was down to 25 percent. We figure we might as well fill it up.

CC Rog.

SL-11 MC-64/2

Time: 01:25 CDT 17:25 GET

5/26/73

CC For your information, we got about 6 minutes left on this pass.

CDR in to that Jay 2 activation tomorrow, as soon as we get up and eat.

CC Okay, no need to rush.

CC While I got you here, we talked about that reset routine. I don't know whether that bugged you at all. The motion, it could get up into as much as 3/10 of a degree per second if we - on some of them, we have seen those kind of things.

CDR Yeah. Is it maneuvering right now?

CC I don't beleive so.

CDR Okay, well, we got the window shades up, so we don't know what you guys are doing.

CC Very good. And Pete, that potable tank and that valve is okay like you got it.

CDR Okay.

CC Skylab, Houston. If you need us for any reason tonight, if you'd give us a VERB 99, we'll have AOS.

CIR Okay.

CC Skylab, Houston. We're 1 minute til LOS and we'll see you manana. Nighty-Nite.

CDR Nighty-Nite honey.

CDR Hey Crip, you still with us.

CC Affirm.

CDR Hey, I just wanted to impress on everybody how - how black or burnt looking that gold foil was getting on the sunny side of the vehicle. I suspect that's the reason your temperature is going up. That mylar's just deteriorating or whatever that gold stuff is.

CC Roger. I think they got that impression today during the fire up.

CDR Okay.

CC Let's hope the parasol takes care of it.

CDR Yeah. Now that we're docked, I'm not sure how we get undocked.

CC We'll work on that.

PAO We have lost the signal at Guam and the crew should be going to sleep very shortly now. They will wake up at their will in the morning. Probably sometime after 9:00 a.m. central daylight time. During the evening a reset maneuver will be preformed to reset the control moment gyros, beside that it should be a rather quite evening. Systems are being monitered. Temperatures seem to be at very acceptable levels. The suit coolant loop, which has given some concern earlier in the last few days

SL-II MC-64/3

Time: 01:25 CDT 17:25 GET
5/25/73

has now risen to 36.8 degrees. Very mild temperature. Very well above freezing, and very well above the safe range that had been indicated earlier, and the temperatures seem to be about the same level that they were earlier in the workshop habitation area. So, we don't expect to hear anything more from the crew tonight. We will have a Skylab reports on the hour from now on, and in the event of any sort of status change, we will come on. This is Skylab Control at 6 hours 39 minutes Greenwich mean time.

END OF TAPE

SL-II MC-65/1

Time: 03:00 CDT 19:00 GET
5/25/73

PAO This is Skylab Control at 8 hours and 2 seconds Greenwich mean time. At the present time, the Skylab space station is in its 168th revolution. The command module is completing its 12th revolution. They are properly docked. The period of revolution is 1 hour 33 minutes 13.5 seconds. The low point in the orbit 235.2 nautical miles. The high point 239.7 nautical miles. That's a variation from approximately 270 statute miles to 275 statute miles. Speed at this time 25,087.8 feet per second, approximately 17,100 miles per hour. Biomedical officer informs us that we will have no information on the time the crew went to sleep tonight because none of the crew members are wearing the operational biomedical system, the OBS which records heart rate and related data. It allows us to determine whether or not they have gone to sleep. At the present time the command module is a very comfortable 70.6 degrees. And it's pressurized to 4.9 pounds per square inch. This is Skylab Control at 8 hours 1 minute and 17 seconds Greenwich mean time.

END OF TAPE

SL-II MC-100/1

Time: 16:48 p.m. CDT, 1:08:48 GET
5/26/73

PAO This is Skylab Control. 21:48 Greenwich mean time, 4:48 Central daylight time. Acquisition at Goldstone in 2 minutes 25 seconds. Crew still at this time making preparations for deploying the Skylab parasol. They first have to move a water tank from the floor of the workshop up to it's permanent resting place lashed down up in the - near the dome. During this stateside pass the final discussion of the changes in the deployment procedure for the parasol will be carried out. Just one more stateside pass after this one. And then we are pretty much on the back side of the orbit which takes us through the Hawaii station and Vanguard for several REV's before we start coming back on the main part of the network. Less than a minute now to Goldstone. We'll standby for the initial call from the spacecraft communicator Hank Hartsfield. Standing by at 21:50 Greenwich time, this is Skylab Control.

CC Skylab, Houston to Goldstone and stateside for 15 minutes.

SC Roger Houston. We have had what we consider to be 3 false alarms from BUS 1 fire detector in the center sleep compartment. And in all (garble) instances, they were transient, lasting less than two seconds. However, the first time it does give you a start. And for right now we got Bus 1 powered off on that detector.

CC Okay. Would you say again the location?

SC The detector in the center sleep compartment. Sleep compartment number 2.

SC Roger, copy.

SC Work is progressing. We've relocated the (garble) holding tank, and that went like a piece of cake, just like two thousand and in one. We've done the tripod move. We got the foil off the SAL. It is in good condition we're in a process of moving the T027 down now, while Joe hunts for the (garble) bags.

CC Roger, copy.

CC Skylab, Houston. Paul, we're having to manage this momentum and do maneuvers here pretty often as you know and we feel that we can't afford to have a maneuver while you're pushing this thing out. Now you can work all the way up to step 22A, but we'd kind of like to a feel for, later on in the pass here. We got about 12 more minutes. About when are you going to get to that so we can manage the momentum?

SC Okay, Hank. Paul heard that and tells me that they don't have a field yet for what they are going to be at that - We'll let you know.

SL-II MC-100/2

Time: 16:48 p.m. CDT, 1:08:48 CET

5/26/73

CC Okay, I just wanted to make you aware. I knew you wouldn't know at this point. But as you start working along maybe you can get an idea about when it will be.

SC You bet.

CC Skylab, Houston. We'd like to verify that -- that you have read the procedure and don't have any questions about it because we're starting to come up on the time of day when we don't have many station contacts. In fact, after we drop out stateside here, we'll pick you up at Vanguard in about 20 minutes and that's the last pass before Goldstone.

SC Okay, I'll pass that word to the workshop Hank. How many minutes left on this pass?

CC Okay, we got 10 minutes here.

SC Okay.

END OF TAPE

SL-II MC-101/1

Time: 4:56 p.m. CDT, 01:08:56 CET
5/26/73

CC Skylab, Houston. For information, we'll be commanding the spectrometer on the CSM; no action required.

SC How do you read, Houston?

CC Roger; I'm reading you loud and clear, Pete.

SC Okay, I got you on the speaker box (garble). I got one of my hot gloves back on again. The speaker box is about 130. We're taking the tape off the box and we're taking our time right now, and if we have any questions on the procedures, we will wait to ask you.

CC Roger; copy.

SC It occurs to me, the question I had was why did you want to reverse the sleeves on the SAL tripod?

CC Say again, please?

SC On the SAL tripod, why did you reverse the speed on it? You know, I just couldn't figure out why (garble).

CC That's the screws that - the way the thing is mounted there for launch, Pete, you know, you turn those around, as part of activation.

CC SPT, Houston.

SC He's down in the workshop.

CC Okay. SPT, just give us a call when you're free for a minute.

SC Can I relay you, Hank?

CC Negative. I just got a little pass we want him to perform here sometime when he's free, and I need to read it to him whenever he's got a chance to listen.

SC Okay.

CC Skylab, Houston. For information, no action required, we're going to do another nominal H-cage in about 2 minutes.

SC Okay.

CC Skylab, Houston. Is one of the guys near the ATM console?

SC No, we're all in the OWS.

CC Okay. We're just trying to verify here. We saw a change of status on the CBRM's. We're managing 5 and 6. Now, we're about a minute from LOS now. We'll be picking you up at Vanguard at 17.

SC Okay.

CC And the reset are the nominal H-cage should be starting now.

SC How many minutes until sunset?

CC Okay, sunset's coming up in 13 minutes.

SC Sure gets hot down here on the stateside pass, and the other thing is when that TACS goes off, it sounds like somebody's beating on the bottom of the lab with a hammer.

CC Roger.

PAO This is Skylab Control at 22:06 Greenwich mean time, 5:06 central daylight. Ten minutes to Vanguard Tracking Station. Apparently we have had loss of signal through Mila, a tracking station near Kennedy Space Center

SL-II MC-101/2

Time: 4:56 p.m. CDT, 01:08:56 GET

5/26/73

in Florida. Pete Conrad commented that during this last pass, that moving the water tank from the floor of the workshop up onto the wall, was a "piece of cake". And just a few moments ago, he said that any time the TACS system, or thruster attitude control system fired, it sounds like someone pounding on the workshop with a hammer. We'll bring the line up again at Vanguard in about 9 minutes. At 22:07 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC102/1

Time: 17:15 p.m. CDT, 1:09:15 GET
5/26/73

PAO This is Skylab Control, 22:15 Greenwich mean time. Little over a minute out from the Vanguard Tracking Ship for the first pass over that tracking vessel this evening. Three successive - four successive passes, 177 178, 179. After Vanguard, it's long dry spell until we hit the States again now; almost a complete revolution. We should have a status report from the crew during the Vanguard pass on how the work in preparing the Skylab parasol is proceeding. We'll stand by for spacecraft communicator Hank Hartsfield's first call. 22:16 Greenwich mean time, standing by, this is Skylab Control.

CDR Houston, you read?

CC Roger, read you loud and clear. We're through Vanguard for about 8 minutes.

CDR Okay, Houston. Damn it. Between steps 6 and 7 you didn't verify bottom. Teflon flaps is innermost and top is out. And unfortunately, the forward flaps run vertically. Now, do you mean the flaps that are inside, the two vertical running flaps? There are 4 flaps there. If you hadn't sent us the change, we'd understood it.

CC Okay. The way that's suppose to be, is the bottom flaps should be folded upwards, then the two side flaps folded across, and then the last flap on top should be folded down.

CDR Okay. That means we have to refold it. Do you understand that?

CC Right. The purpose of that, Pete, is to keep the SAL door, when it pushes in and down from pulling that flap down.

CDR Okay. I'm not arguing with you, I'm telling you we have to change it. Is that what you expected us to have to do, change it?

CC Negative, we did not expect that.

CDR Because it's not packed that way. You want us to hold while you verify or do you want us to change it? I understand what you're talking about.

CC We want it changed, Pete. We want it so that the SAL door will not drag the flap down. So, that top flap has to be on the outside folded down.

CDR Top flap folded down. You will have.

CC That's the thing we uncovered last night, Pete, when we were working in the trainer. The - When they packed it, we didn't know about that problem with the SAL door.

CDR Yeah, I understand that, I just wanted you to understand that we were going to have to rearrange those

SL-II MC102/2

Time: 17:15 p.m. CDT, 1:09:15 GET
5/26/73

flaps because it was not packed the way you described it to start with.

CC Okay. We did that in the trainer. That's easy to do.

CDR Okay.
CC Skylab, Houston. For your info on the maneuver, we're doing a pitch maneuver now to pick up the power situation. We shouldn't have to do that again while we're deploying. Our next nominal H-cage is going to have to be done at 23:39 over Texas, which is on the next contact after Vanguard. So, the only constraint we have on you is that we cannot be maneuvering while you're doing steps 33 to 35 and that is when you actually deploy the parasol. So, if you reach that point in the checklist and it looks like it's getting close to the time we're going to have to do that reset, we're going to have to hold up until we get it completed.

CDR We understand that. But we need your steps at the time, so we can write it down. It was 34 and 35 and when are we over Texas?

CC Okay. Over Texas at 23:39, that's when we have to do a re - nominal H-cage. And the steps were 33, 34, and 35. That's when you do the last little push to deploy the parasol.

CDR Okay.
CC Skylab, Houston. We're about 20 seconds to LOS. We'll be picking you up at Goldstone at 28. And ah - we show you coming up close to termination of bed-1 bake-out, we want to delay bed 2.

CDR Say again about bed-1 bake-out, Hank.
CC Roger. According to our time, it's just about through and we want to delay number 2.

CDR Okay.
PAO This is Skylab Control. We've had loss of signal from tracking ship Vanguard. The Skylab cluster now over the South Atlantic an hour and 2 minutes out of Goldstone; almost a complete rev before the next station pass. We're proceeding quite well on preparing the Skylab parasol for deployment. The Teflon flaps, which are the ends, actually, of long sheets of Teflon on the four sides of the canister, are being repacked so that the upper flap is downward to avoid any binding with the opening of the airlock - scientific airlock door; a fairly minor operation. It was checked out in a trainer last night and found to be the best way to avoid any possible difficulties. At 22:26 Greenwich mean time, up again in 1 hour and 1 minute, this is Skylab Control.

END OF TAPE

SL-II MC-103/1

Time: 18:18 p.m. CDT, 1:10:18 GET
5/26/73

PAO This is Skylab Control, 23:18 Greenwich mean time. Slightly over 9 minutes to acquisition on the final stateside pass of the day. Pickup at Goldstone and just sliced through the western edge of the Texas circle. Flight controllers here in the control room are taking advantage of this long LOS period to drag out brown-bags and go down to the snack bar and other places in the building and in general, stretch their legs. After Goldstone and Texas we have about 3 or 4 successive passes at the lower end of the descending node, passing through the Vanguard tracking ship acquisition range. Orbit continuing to precess westward during this time of the day off the range coming back on to it in the early morning. During the upcoming stateside pass we should get a fairly good estimate or evaluation by the crew on how they stand with the deployment of the Skylab parasol. At least verbal descriptions and if they've found the time to take the effort to unstow the television camera, hopefully a picture. Up again in 7-1/2 minutes with Goldstone acquisition. At 23:20 Greenwich mean this is Skylab Control.

END OF TAPE

SL-II MC-104/1
Time: 18:26 CDT 1:10:26 GET
5/26/73

PAO This is Skylab Control 23 hours 26 minutes Greenwich mean time, slightly over a minute until acquisition through Goldstone and a small slice of the Texas station. Flight Director Neil Hutchinson went on the flight director loop and asked everyone to settle down after this long LOS period, sit down and settle down. Everyone anticipating and hoping for a successful Skylab parasol deployment, either completed or near completion. They will leave the air-to-ground line up to catch the first call as we have acquisition of signal. At 23:27 standing by, this is Skylab Control.

CC Skylab, Houston through Goldstone for 12-1/2 minutes.

CDR Hello, Houston.

CC Hello there.

CDR (garble) Be advised we have invented - we have - - We are getting a little coolant break. It's pretty warm down there. So we are progressing slow but sure and everything so far is working.

CC Okay Pete. We had a little dropout there, some noise. Could you tell us what step you're on?

CDR We're about to put rod Delta on.

CC Roger, copy.

CDR Okay, we had no trouble venting it down. It vented in about 4 minutes and it held zero for 10 minutes without any outgassing. Going at it very smoothly and, so far, the rod extension has gone very easily. And as I say, we're just taking a little heat break.

CC Hey, that's a good lick.

CDR And Paul has terminated mol sieve 1B bake-out. Now we noticed that the dewpoint has gotten up to 44 and we want to know whether you want us to go ahead a little later in the day or (garble)

CDR Hello, Houston. Are you there?

CC Roger.

CDR You're breaking up, Hank. Did you copy my last about the mol sieve?

CC Roger, understand you are terminating the bed-1 bake-out.

CDR That's right. Also, did you get in on the onboard dewpoint?

CC Roger, we copy 44. Is that correct?

CDR That's affirmative. If you want us to do it later on, just let us know and we'll do it. Now I have something else on a PP CO2. We've got three active sensors and they are all reading differently. Just for your information - -

END OF TAPE

SL-II MC-105/1

Time: 18:32 CDT 01:10:32 GET

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PLT this is how we'll do it.
CDR Now, I got something else on the PCC 02.
We've got three active sensors, and they are all reading differently, just for your information. Sieve B IN is reading 2 millimeters, Sieve A is reading 3, and surprisingly well, not so surprisingly because, since it's been doing it but Sieve A-OUT is reading about 4-1/2.
CC Roger, we copy, and we have telemetry on those.
CDR Okay. Also, How about, just for onboard information, confirming or correcting our report indication that showed that our Panel 225 the 120 psi O2 regulator is regulating to 140, also, let me look a minute, the N2 is regulating to about 165.
CC Okay. Those figures agree with what we got down here, Paul, and they're acceptable.
PLT Okay. So everything's working right that way but those are the right numbers.
PLT Okay, Henry, Now, let me verify about this parasol extension stuff.
CC Okay. Go ahead.
PLT We can do everything except Step-33,34, and 35 while you're maneuvering the vehicle. Is that right?
CC Stand by 1 minute.
CC Skylab, Houston. We're coming up at in about 5 minutes, with the nominal H- case, and we would like for you not to do any more extensions until after maneuver is complete. Once that maneuver is complete, you're clear to press on through the deployment. The thing we don't we don't want to do is be deploying while - when the maneuver is going on and thrust is firing.
CDR Okay, I thought that might be the case, which wasn't clear before. When's that maneuver going to be over. You know?
CC Stand by. I'll get an answer on that.
CDR Okay. Either a time, or another AOS.
Just so we know when we can pick up.
CC Okay. We are about 6 more minutes on this pass, and then we'll be picking up Vanguard at 54.
CDR You cut out, Henry. All I got was 4.
Say again.
CC Okay. We have about 6 more minutes on this pass, and then we'll pick you up at Vanguard at 54.
CDR Okay. When can we continue the mission. You want to wait until we pick up at Vanguard? You give us the GO then?
CC Stand by.

SL-11 MC-105/2

Time: 18:32 CDT 01:10:32 GFT
5/26/73

CC Skylab Houston. You're clear to proceed with the deployment at 23:45.

CDR 23:45, Okay.

CC And we're getting a good picture down here.

CDR Okay. That's TV specialist Dr. Kerwin. Paul he - would you look at the picture of the right window, in the foreground you see the see the MDA, that white painted, (garble) behind that is ATM the strutwork, and mostly the rest of it is dirt. I don't think is this picture you can see the - the thing deployed yet. If you like I'll take it to the left hand window now, and give you a hand held shot of it. And tell me, what are your - what are TV opportunities? Do you have any over Vanguard?

CC That's negative. And we got about 4 minutes left, and if you could give us that other window, we'd appreciate it.

CDR (Garbled)

CDR Okay, Henry - Let me - You did say we could resume deployment at 23:45?

CC That is affirmative.

CDR Okay.

CC And Joe, before we lose you, we would like to get the TV on the BTR, in any event.

SPT Okay, I'll turn it on, and you guys can start it anytime you want. How's that?

CC We're going to have to have you start it, because we probably won't be in a station contact when they get it deployed.

SPT Oh. Okay. You wanted - You wanted to get it on the BTR, the deployment itself.

CC That is affirmative.

SPT Oh. All right.

PAO Kerwin has moved the camera over to the left Command Module rendezvous window looking up through the telescope mount truss, back toward the area where the parasol should be poking up through the scientific airlock. You can see the bottom of the - see the bottom of the telescope mount.

SPT Okay Henry, you're looking at a hand held view out of the left window, with the monitor between my knee and unfortunately, I don't think you can see the orange sail material, which is right in the center line of that ATM strut - (garble), because I have to move my head to the very right hand side of the window to see it, and I can't get the TV camera in over there. There isn't room.

CC I guess we're having trouble seeing it.

SL-II MC-105/3
Time: 18:32 CDT 01:10:32 GET
5/26/73

SPT If I try to move it to the right, the
body of the camera's too long, and I can't hack it.
CC Skylab, we're about 45 seconds from LOS.
Vanguard at 54.

PAO This is Skylab Control. We've had loss
of signal as the cluster passed out the southern edge of
the Texas acquisition circle. Slightly over 12 minutes
until acquisition at tracking ship Vanguard, which will
be almost straight over head at a 86 degree elevation angle.
90 Degrees being straight up, obviously. Total pass time
of 7 minutes and 20 seconds. The crew had attached sev-
eral of the extension rods and had it partially deployed
through the airlock scientific, scientific airlock, and on
the television picture from the lefthand window, the still
folded canopy could be seen at the apex of the truss frame
of the telescope mount. Any subsequent television will be
loaded on the on-board video tape recorder, in as much as
there are no more stations with live capability until
tomorrow. We'll return with this circuit in 11 minutes
with the Vanguard pass. After Vanguard, it will be about
an hour and 8 minute gap again until Hawaii. At 23:43
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-106/1

Time: 18:52 p.m. CDT, 1:10:52 GET

5/26/73

PAO This is Skylab Control, 23 hours 52 minutes Greenwich mean time. A minute and a half out of tracking ship Vanguard at the start of revolution number 177 for the orbital workshop. We should continue to hear a progress report on deployment of the Skylab parasol. After Vanguard there will be another long break of an excess of an hour before we come up on Hawaii. Stand by now for the resumption of communications from the crew of Skylab and the ground.

CC Skylab, Houston through Vanguard for 7-1/2 minutes.

PLT Roger, Houston. The parasol is I think completely deployed. I'm just going down to check on it.

CC Roger.
PLT It's not completely extended, it's not deployed.

CC Roger.
CDR Correction, we're about to extend rod Echo, rod Echo.

CC Okay.
CC Roger, copy rod Echo.

PLT Hey, Henry?

CC Go ahead.

PLT Okay. According to the the procedures now, after we get E out, it reads like we put F and G together and push all the way out, but there's a broken (garble) on L. I just want you to (garble)

CDR Okay, I think our (garble) is the one we used to lock the 4 rods. (Garble) And to release the springs - -

PLT Houston, we're not reading you. We're going to move up to the MDA and talk to you.

CC Okay, we've been having a little trouble with Vanguard. Have we got good comm now? How do you read?

PLT Loud and clear. What's the story with the stripe on F? The procedures don't say anything about it.

CC Okay, step 27 tells you about rod F.

CC After you put F on and 26 you move it out to the mark and then clamp it.

PLI Okay, I got you. I read that over.

PLT Now the two marks on E are only about an inch and one half apart. That's right, huh?

CC That's affirmative, and when you get to the first mark that should be the point where the telescope and rods start locking and when you reach the second point you should be in a vicinity where all of them should be locked.

PLT Okay.

CC But if you have any doubts we want to push it further until you have no doubts that all the

SL-II MC-106/2

Time: 18:52 p.m. CDT, 1:10:52 GET

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telescope and rods are locked.

PLT Okay. (Garble)

PLT How important is TV Hank? It's dark outside now, you want to wait for light?

CC Negative. We want to get it out.

CC Skylab, Houston. We would like for you to get a visual verification on the deployment. Whether we get TV or not is not important. We want you to have a visual on it though.

PLT No chance of a visual, Paul, until we go into sunrise.

PLT When did that start, Hank? We're at the first mark on E now. How far can we progress before dealing?

CC Okay, you can progress all the way up to step 32. That's when you start the final deployment.

PLT Okay.

CC Thirty-two is releasing the brake. Go up to 32. We have about 26 minutes to sunrise.

CC And we're one minute from LOS. Our next contact is Hawaii at 03.

PAO This is Skylab Control. Apparently we have had loss of signal through Vanguard with the Skylab cluster. Not too much farther to go now in the extension rod attachment to bring the Skylab parasol out to the full extension point where the 4 ribs will fly upward and outward to 90 degrees to the center pole. However, they express a desire to wait until spacecraft sunrise before doing this. And sunrise for them will be in 23 minutes. However, the Skylab will not be over any ground station for another hour. Hawaii in 59 minutes at 00:03 Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-II MC-107

Time: 19:32 CDT 1:11:32 GET
5/26/73

PAO This is Skylab Control 0032 Greenwich
mean time. Skylab space station just crossing the island
of Ceylon on over into the Bay of Bengal on revolution
number 178. Fifty-two minutes remaining until the space-
craft sunset. And it is hoped that the Skylab parasol de-
ployment will be accomplished during this day side pass.
We're still a half hour out of Hawaii. It's fairly quiet
in the Control Room here. People are taking a , again
taking this long LOS break as an opportunity for meals,
getting a cup of coffee. We'll bring up the circuit again
at acquisition Hawaii in 28 minutes. And at 0033 Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-108/1

Time: 19:53 p.m. CDT, 1:11:53 GET
5/26/73

PAO This is Skylab Control, 00:53 Greenwich mean time. Skylab space station and command service module, known as the Skylab cluster, now nearing the three-quarter-way point of revolution 178, crossing just south of the Aleutian Island chain, some 8 minutes and 50 seconds out of acquisition at Hawaii. A group of about 30 people just came into the viewing room here in the control center. This group is made up of people from the Johnson Space Center Technical Services Division, Crew System Division, and other elements of the NASA center, plus people from the support contractor organizations who were involved in design, fabrication, and testing of the Skylab parasol. They've come in to see the final - hear the final report of deployment, hopefully, which will be over Hawaii and most probably over Vanguard a few moments later. We'll be up again in 7 minutes at 00:55 Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-II MC-109/1

Time: 20:02 CDT 1:12:02 GET
5/26/73

PAO This is Skylab Control 1 hour and 1 minute ground elap - I mean Greenwich mean time. We have had data acquisition through Hawaii tracking station. We'll stand by for resumption of air-to-ground communications. This pass is only 5-1/2 minutes long. This is Skylab Control standing by.

CC Skylab, Houston to Hawaii for 5 minutes.
PLT Roger, Houston. Stand by one, we're trying to get the PB on the VTR and Pete will have a chat with you.

CC Skylab, Houston. We've got about 4 minutes left on this pass. Can you give us a report?

CDR Be right with you, Houston.

CDR Okay, Houston. We had a clean deployment as far as rods clearing and everything, but it's not laid out the way it's supposed to be. And we've got pictures of it on the VTR for you. Now right at the moment, we've operated voided the rod in and out a couple of inches short stroke-wise rapidly, which has improved the deployment. But the problem seems to be that the folds in the material have taken too much of a set. And it is more fully deployed in the front across the upper skirts. But, there are two folds emanating from the set, 3 folds emanating from the center deployment plate; one to each side and one towards the base skirt. So, in effect, we have a trapezoid which is the smallest dimension toward the base of the vehicle. Now, that's as far as we've gone. We're open for suggestions. I have the feeling that if we pulled it all the way in close to the vehicle that it would touch in the back and along the sides. It might possibly help the folds out of the material and if we did push her back out again and gently oscillate it in and out, as we have in the past, which seems to improve it. But, I think we've gotten about as much out of it as we're going to get. My guess is we've only got about 12 to 14 feet at the back end with perhaps 18 to 20 at the front end. And I don't even know the dimensions of the sail.

CC Okay the dimensions are supposed to be 22 by 24, Pete.

CDR Well, it's possible that we've got it completely backwards and we could turn it 180 degrees. That would - which way do you want - which dimension do you want the 24?

CC Twenty-four is the length of it, 22 feet should be the width.

CDR Okay. Then it is in fact a square.
I mean a rectangle.

CC Yes.

SL-11 MC-109/2

Time: 20:02 CDT 1:12:02 GET
5/26/73

CDR

Is that right, Houston, it's a rectangle?

CC

Roger, it's rectangular and the center, of it - the hub is off center on the rectangle. There's to be the poles that are pointed back toward the ATM should be the ones that have a length without fabric on them.

CDR

That's the way it is.

CC

That's the way it should be.

CDR

If you are able to dump our TV we, I think, give you a pretty good TV of it. It just does look to me like the end aft toward the aft skirt has got three wrinkles. One coming between the aft skirt line and one on each side running along you know running outboard to the side. And that it's pinched the fabric, you know, it's taken a permanent set. And the front end, which has the strings on it, that's pretty well deployed.

CC

Okay, we're about 15 seconds from LOS. We'll think about it and we'll talk to you at Vanguard. We hope to have a plan then. Vanguard is coming up at 30.

CDR

Three zero, Roger.

CC

Skylab, Houston. If you can still read, we'd like to terminate that Bat A charge and get Bat B to charging. And also, if anybody is free, we'd like to start them on the water flight servicing.

CDR

Okay, we were just going to ask you that.

PAO

This is Skylab Control. We've had loss of signal through the Hawaii tracking station. Coming up on Vanguard in 21 minutes. There was considerable applause in the viewing room from the people who are involved in designing, fabricating, testing the parasol when it was reported that it had deployed with a few wrinkles in the after end of it - end pointing - facing toward the telescope mount. Meanwhile, here on the ground, discussion is underway on how would be the best way to try to shake the wrinkles out. And, hopefully, over Vanguard, some word will be passed up to the crew on how would be the best way to correct the problems and get the full 22 by 24 foot dimensions out of the parasol for the optimum solar shading. We'll come back up at Vanguard in 20 minutes. At 01:10 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-110/1

Time: 20:21 CDT 01:02:21

5/26/73

PAO This is Skylab Control 01 hours 21 minutes Greenwich mean time. Eight minutes now, out of Vanguard - Vanguard Tracking vessel, and we should have further reports on retraction of the main stem of the Skylab parasol. Here in the Control Center, there are several little discussion groups scattered around the room, on how the best way to shake loose the folds in the canopy. The main consensus seems to be to pull it down fairly close to the workshop and either go solar inertial and leave it as is, or perhaps rotate it rapidly to try to use this centrifugal force of the rotation against the aft ribs to shake out the wrinkles in the fabric. And we'll be coming up on the reset in the control moment gyros over Vanguard, which will require some TACS thruster firings. And perhaps the plume from the thrusters may have some effect in shaking out the wrinkles in the canopy. We'll be back up in 6-1/2 minutes for the Vanguard pass at 01:20 Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-11 MC-111/1

Time: 20:28 p.m. CDT, 1:12:28 GET
5/26/73

PAO This is Skylab Control 01 hours 28 minutes Greenwich mean time. About a minute and 56 seconds out from Vanguard tracking ship nearing the end of revolution 178 for the workshop. After Vanguard, we again have a long gap of about an hour before Hawaii. Hawaii pass will be almost due overhead, 81 degrees elevation, maximum elevation. And we expect another status report from the crew on the retraction operation of withdrawing the center support rod, taking off the rods as they bring it in. Forty-five seconds to acquisition. However, occasionally we get acquisition ahead of the clock time. So, at this time we'll bring up the circuit for the Vanguard pass, which has a duration of 10 minutes and 2 seconds. Skylab Control standing by.

CC Skylab, Houston through Vanguard for 9 minutes.

CDR Go ahead.

CC Roger. First off, we'd like to get Joe to tell us what he saw out the window. We would like to know if the rods are approximately in the same plane.

SPT Well, we don't think so, Houston. We can see the ends of all the rods. It's completely free of anything and there's nothing hanging it up.

SPT And if you want to know what it looked when it deployed I can see the thing stickin up, bunched in the middle, billowed a little bit at the top and at the bottom, and when they deployed it, all four legs came up. The front legs, that is, the forward ones closest to the command module, came up smartly. It looks as if they actually went over center a little bit, then bounced back. The back ones did not come up, it looked like, all the way - didn't come to 90 degrees. They went slowly and they just kind of drifted to a stop.

CC Okay. What kind of an angle do you think they made with the plane of the first two rods?

SPT It's your guess, but I guess 30 degrees, something like that.

CC Okay, we would like for the CDR and the FLT to go back in the workshop and pull her in and we'd like for you to pull as many rods in at one whack. Undo the rod brake and bring in about three at a time and then remove them and we want you to complete the procedures down to step 43 so you've done a full retraction and got the rod A configuration proper. And we're going to be doing a nominal H-cage at the end of this pass and we want to get it in close.

SPT It worked.

CC Skylab, Houston. We'll give the time for that reset so that you can be sure and have the rod brake on when we start it.

SL-II MC-111/2

Time: 20:28 p.m. CDT, 1:12:28 GET

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SPT Roger.
CC Skylab, Houston the time for the reset is 01:36. That will be the time for the nominal H-cage. 01:36 and we'll warn you again at - close to that time.
CDR Understand 01:36. That's two minutes from now, but we'll hustle.
CC Roger, and once we get the parasol retracted, we do not plan to do anything more with it tonight. We're going to take a look at it, and we think we've got almost a full deployment and pulling in will do the rest for us.
SPT I understand.
CC And for the CDR, we're not too concerned about getting it all the way down before the reset. The main thing we want is that you do have the rod brake on when the reset starts or the nominal H-cage starts.
CC Skylab, Houston we're going to give you a little more time here. We're going to delay that reset to 40.
CDR Okay. 40.
SPT Okay, we're pulling it in Houston. Be advised the rods we're pulling in are quite cool and feel very nice to the touch.
CC Roger, copy.
CC SPT, Houston. Did the CDR, PLT take a rest between the Hawaii and Vanguard?
CC SPT, Houston.
SPT Go ahead.
CC Roger, we'd like to know if the CDR, PLT took a rest between Hawaii and Vanguard?
SPT They took a break, Houston.
CC Roger, copy.
SPT Okay, Houston, we got it in.
CC Okay. I understand you got a full retraction and you've followed - completed the checklist through at least 42.
SPT I didn't say that. We're presently double checking that. We got it all the way into the mark on rod Alpha and we rod brake clamp thing tightened down.
CC Roger, sounds good. We're going to start the reset - the nominal H-cage immediately. Now, for the rest of the evening, we'd like for you guys to go back and if you haven't eaten already, eat, and we're going to try to get on with the nominal flight plan.
SPT Okay, good enough. Also rod B is gathering frost as it lays here in the fiery workshop.
CC And we'd like to insure that you do

SL-II MC-111/3

Time: 20:28 p.m. CDT, 1:12:28 GET
5/26/73

complete step 41 there, Paul. We'd like to make sure we get the push rod knob A on there and the set screw in.

PLT That didn't work, Hank. It's a little tough getting these two sections separated. We'll get on that as soon as we can.

CC Okay.

CC Okay, we're almost LOS now, we'll be picking you up over at Hawaii at 37.

PLT Okay.

PAO This is Skylab Control. We've had loss of signal through the Vanguard tracking ship. With a successful retraction and clamping of the center pole of the Skylab parasol. The brake set prior to the time the commands were sent to reset the control moment gyros using the thrusters on the orbital workshop. Still 18 minutes remaining of nightside pass. It will likely take a couple of dayside passes before a trend is observed of reduced temperatures - temperatures coming down. Acquisition directly over the Hawaii station in 55 minutes. At 01 hours 41 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-112/1

Time: 20:58 CDT, 1:12:58 GET
5/26/73

PAO This is Skylab Control. 01 hours 58 minutes Greenwich mean time, 38 minutes away from Hawaii. Skylab cluster crossing the east African coast in the straits between the Island of Madagascar and the continent of Africa. Here in the Mission Control Center there's a great deal of confidence that the recently deployed Skylab parasol will have a good effect on the internal temperatures of the Skylab workshop. Johnson Space Center Technical Services Division Chief Jack Kindsler just spoke to the group of people in his division and other elements of the center and support contractors in the viewing room, and expressed the belief that as the parasol gets warmed up by the Sun during the next couple of dayside passes, the wrinkles in the after end of the canopy which apparently were set by the cold soak during the early part of the deployment will indeed flatten out. And that the parasol will provide the designed effect of lowering the temperatures, and acting as a parasol in name and indeed for the Skylab workshop. 37 minutes to Hawaii. At 02:00 hours Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-113/1

Time: 21:19 CDT 1:13:19 GET

5/26/73

PAO This is Skylab Control 2 hours 19 minutes Greenwich mean time. Skylab cluster now over north central China, midway through the 179th workshop revolution. Seventeen minutes out of Hawaii. Thirty-eight minutes remaining in the current dayside pass. And flight controllers will be observing the workshop temperatures during the next couple dayside passes to see if there is a trend of temperature reduction in the workshop structure and in the atmosphere. It will probably take at least 2 revolutions for the temperatures to begin a downward trend. And hopefully through the night, the workshop will be in a comfortable temperature, by the start of tomorrow's crew workday. People here in the Control Center are well satisfied with the deployment of the Skylab parasol. And as the inventor of the parasol mentioned in his pep talk to the people in the viewing room who had built and tested the device, he felt that the wrinkles seen in the after end were a result of cold soak and that as the Sun warmed up the canopy, the wrinkles would flatten out. We're looking now at a handover from Flight Director Neil Hutchinson to Milt Windler at about 10:15 central time. And anticipating a press conference shortly there after, perhaps 10:30 p.m. central. Participants will be William C. Schneider, Director of Skylab Program NASA Headquarters, Flight Director Neil Hutchinson, and Jack Kinsler who is Chief of the Technical Service Division Johnson Space Center, the man who's brainchild the parasol was. Fifteen minutes out of Hawaii, at 02:22 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-114/1

Time: 21:36 CDT 01:13:36 GET
5/26/73

PAO This is Skylab Control 2 hours 36 minutes Greenwich mean time. We have acquisition now, even though the clock says we're some 15 seconds away, through the Hawaii station. Almost directly over the Hawaii station. 81 degrees elevation angle maximum. We'll see how the solar sunshade or Skylab parasol is working as we read temperatures on this pass. See if they're coming down.

SC See you over Hawaii for 10 minutes.

CC Okay, we got a lot of things we want to talk about on this pass. I guess I'll get on with it. First off we're planning a medical conference at Vanguard, which is about 03:04. That will be the next station contact after this one. The next item is that we have a requirement that one of you wear the OBS tonight, since we don't have any (garble) in the Command Module, and depending upon the CSM fan, we're recommending the SPT.

CDR Okay.

CC And for the SPT, we'd like to get his opinion on - we can only - we can't dump all of the VTR tape to get that pictures back of the parasol, and we'd like to know whether it would be better to lop off the first part or the last part. In other words, about where in there was the pictures of the deployed parasol?

SPT Hank, if you might get the pictures of the actual deployment at the beginning, and the pictures most actually representative of the configuration in which we ditched it down are at the end, and you can take your choice.

CC Okay, thank you.

SPT Hey, Hank.

CC Go ahead.

SPT I got to apologize profusely, but I inadvertently opened the circuit breakers to the amp hour integrator number 8, and it's reset to zero onboard.

CC Roger. Copy.

CC And our maneuver plan is here, we're going to take a look at the temperatures, and we think they're coming down. We're prepared to command a solar inertial here over Hawaii. Just let you know, and we're also prepared to back that up at Vanguard as a last choice.

SPT You say you think they're coming down or if they're coming down.

CC Well we're looking at them now to see what they look like.

SPT We just finished weighing all the mol sieve heat exchanges. What do you do with them? Just stand by until tomorrow.

SL II MC-114/2

Time: 21:36 CDT 01:13:36
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CC Okay, while we're getting an answer on that, we'd like to know how far you got in the - your checks, have you done the quiescent panel yet?

CDR Yeah. I rated panel 351, which we're leaving UP so that we can have water. I was gonna do 352, 382, and 378, 79, 76, 399, 377, 600, 602, 601, 603, 604 and side hatch tunnel hatch, and that's it. The rest of it's done. BAT B is being charged. I just did an O2 purge.

CC Okay, what we're getting at, Pete, we - we're wondering how you feel about trying to get the VCS dump in tonight, and get some circulation going.

CDR Boy, you bet, we can do that.

CDR Hey, if you think those temps are coming down, and that will help any, that's no strain. We're in good shape up here.

CC Okay, then, in that case, we'd like for you to do Step 1 & 2 on Page 2-62, and following that, on Panel 390, I'd like to get all four OWS heat exchanger fans on. Just place all four of them to on. And tomorrow's flight plan, of course, we'll delete that part of it and do Steps 3 & 4.

CDR You say you wanted the OWS heat exchanger fans on or off?

CC On. O N. After you install the duck according to Steps 1 & 2 on Page 2-62, Panel 390 in the lock there, we want to get all four heat exchanger fans on.

CDR Will do. How did the temps look?

CC Okay, it looks like to us the temps are coming down, so we're going to put the solar inertial in WORK.

CDR Very good. Very good.

CC Okay, and another thing, Pete, we're looking at two flight plans tomorrow. We - We're just taking a tentative look at a flight plan that doesn't consider anything in the workshop. And we have the other alternative is going as planned with a what we launched with. Now, we'll try to get - We'd like to get your opinion on this, how you feel about working in the workshop tomorrow.

CDR Well Buck, if you bring those temperatures down any at all, I'm guessing, but, we spent the better part of 2 or 3 hours down there, and everytime we'd get hot, we'd come up and take a rest. Now, if the temperatures are coming down, and they've come down at - I don't know - Maybe Paul's got a different idea, but I'd say it was at least 120 in there today, but you can work in there. It's dry. We didn't get any problems with heat, whenever we just got too hot, we'd come up and cool off for awhile and

SL-11 MC-114/3

Time: 21:36 CDT 01:13:36 GET

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cool off and go back to work, so if they come down at all, I would like to stick with our original flight plan, and go start activating it down there.

CC Okay, our best estimate, Pete, is we'll be below 100 degrees in there by tomorrow morning.

CDR Well, what do you think it was in there today?

CC We guess about 125.

CDR Okay. Well, I think we're pretty well calibrated. You bring it down 20. We aren't going to be riding any bicycles or anything, but we can get down there and at least start configuring things, and we'll just press along as best we can. If we cannot, we can come out. As far as the temps are coming down. I think that's great. I'd like to press for the normal flight plan.

CC Okay, I guess we will concur with that then. We uplinked you a contingency on dock procedure in regard to the probe. By hooking them together, you probably got now. That is just a get me home thing. Tomorrow we hope to have a better analysis of the probe for you.

CDR Okay, very good.

PLT Okay, Henry, when we put on the VCS ducts and we turn on the OWS heat exchangers, what do we do about the vent fan. Do you want to unplug the vent and go ahead and fire up that fan, or leave it like it is?

CC Stand by just 1.

PLT That's the A - that's the A-N duct fan.

CC Roger. I understand. Let me get an answer on that right quick.

PLT Okay.

CC Roger. We'd like to proceed with uncapping that duct, and getting the fan going.

PLT Okay. I got this list of SEVA questions. Do we have time for me to go over them with you now?

CC We've only got about 2 minutes left right now in this pass. I guess we'd like to delay those.

PLT Okay.

PLT How about if I record them on Channel A for now and you can listen to them, and if we get a chance, I'll give them to you, and otherwise, they're on tape, and you can listen and see if you got any further questions.

CC Okay. I was just getting ready to come up to you with that. That's real good. Press on with that.

PLT Okay.

CC Skylab, Houston. You're on your way to solar inertial now.

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Time: 21:36 CDT 01:13:36 GET
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CDR Roger
CC We're about 30 seconds from LOS, Skylab.
We'll be coming up on Vanguard, as I said, at - it'll be
about 09 now, and we'd like to say, you guys did a tre-
mendous job down there. We've got everybody smiling here,
now that we've got that parasol out.

PLT Okay. Thank you. And tell those people
that I'm awful sorry about that breaker. I thrashed it around
(garbled) in that heat exchanger break, but I just flipped
it up with my toe.

CC And if you still read us, we'd like to
get that (garble) system activated.

CDR Roger, you got a page number for that, Hank?

SC Okay, that's page 2-137.

PAO This is Skylab Control. The Skylab
cluster has gone over the hill, from Hawaii tracking station.
It is now just north of the equator in the Central Pacific.
Twenty minutes to Vanguard. The trend in temperatures as
shown on the numerous different measurement points through-
out the workshop is definitely downward. And as mentioned
by spacecraft communicator Jack Hartsfield, it's likely
that the workshop atmospheric temperatures will be below
100 degrees Fahrenheit by tomorrow morning. They're now
around 120 to 125. We're still estimating around 10:30
for the change of shift press conference in the Johnson
Space Center news room. Participants again. Skylab
Program Director, William C. Schneider. Flight Director
Neil Hutchinson, and Jack Kinzler, Chief of the Johnson
Space Center Technical Services Division, who will discuss
his invention. Eighteen minutes to Vanguard where there
will be a medical consultation on a private loop. And at
2 hours 50 minutes Greenwich mean time, this is Skylab
Control.

END OF TAPE

SL-11 MC-115/1

Time: 22:07 CDT 1:14:07 GET

5/26/73

PAO This is Skylab Control 3 hours 6 minutes Greenwich mean time, a minute and 55 seconds away from the tracking ship Vanguard. Skylab cluster crossing the western coast of South America. We'll come across over the horizon from the tracking ship Vanguard in the next few moments. The command will be up-linked to the spacecraft through the Vanguard to go to solar inertial attitude even though we are, at this time, still in darkness, 24 minutes away from the spacecraft sunrise. After Vanguard, it will be more than an hour before the next tracking station, Hawaii. About an hour and 2 minutes between LOS, Vanguard and AOS, Hawaii. We will stand by for Hank Hartsfield's first call to the crew.

CC Skylab, Houston. We're with you for another 4-1/2 minutes.

SPT Okay, Houston. We've had a - well we just had another one. We keep getting ACS MALFS, CMG SAT, and rate gyro problems. We have a single talkback in the Y-axis rate gyro and gyro 1. We're not solar inertial. We are in ATT HOLD CMG off the solar attitude. And we'd like you to share with us if you have any knowlege what the heck is going on.

CC Okay, what we've done is maneuver back to an attitude that should be approximately solar inertial. We're in ATT HOLD, we're not in the solar inertial mode. We have also seen the rate gyro failure that - well, at least, redundancy management has claimed that one of the rate gyros in the Y-axis has failed. And that's about the status as we see it now.

SPT Is this the same kind of failure that they have been seeing for 2 days?

CC That is affirmative.

SPT Okay, I'm going to INHIBIT it then, on caution and warning it's going about every 30 seconds. And our CMGs are remarkably close to saturation when they worked just a short while ago. And is that because of the rate gyro drift?

CC Okay, that saturation is due to maneuver, Joe.

SPT Well okay. It wasn't that bad earlier in the maneuver but I still believe you. And what is your ground figure for TACS percent (garble)?

CC The last figure I saw was 51 percent. In fact, we're showing 51.6 percent now, Joe. Okay, we got a couple of other items for you. We recommend that you leave all the hatches open tonight. No need to close them up. And we'd also like to inform you that there will

SL-II MC-115/2

Time: 22:07 CDT 1:14:07 GET

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not be a trim burn tomorrow. We only have 5 foot per second capability and we're going to try to use it at the optimum time.

SPT Okay, no trim burn. We will leave the hatches open tonight. One to 5 feet per second above.

CC That's above the SMRCS red line.

SPT Okay.

CC SPT Houston. We'd like you to select 1 and 3 in the Y AXIS. And you may get another failure alert there until we can get the drift correction in.

SPT Okay, you don't want me to do any DAS work, just select it on the panel, right?

CC We'd like you to select it through the DAS.

SPT Oh, Okay.

CC Skylab, Houston. As soon as you get the gyros configured, we'd like you to do a nominal H-cage. We're about 20 seconds from LOS. We hope you guys get a good night's rest, and we'll see you in the morning.

SPT Gyros and then a nominal H-cage, Okay.

CC And Skylab, if you get a chance, we'd like you to put the evening status report on channel A.

PAO This is Skylab Control. We have apparently had loss of signal through the Vanguard tracking station. One hour and 37 seconds until Hawaii acquisition. A very low elevation angle pass, only 2 and a quarter minutes long. And then Vanguard an hour and 28 minutes from now. By then the crew will likely be in the sleep period. Some difficulties experienced with the Y-axis rate gyro, which the flight controllers here in the Control Center feel confident they will be able to sort out and go into solar inertial rev later than intended. They had planned to command solar inertial attitude during this Vanguard pass, but it's been delayed 1 rev until the rate gyro problem is sorted out. At 3 hours 19 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-116/1

Time: 23:32 CDT 1:15:32 GET

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PAO This is Skylab Control at 4 hours 32 minutes Greenwich mean time. We're going to play for you now the record-recording of the air-to-ground during the Hawaii pass. As it turns out, the flight director indicated that he needed some additional conversation with the crew at Hawaii. And the crew is still in the process of wrapping up before going to bed and they will be again contacted now at Vanguard and possibly even as late as Ascension. So we are now going to play the Hawaii track and we'll have another acquisition or signal coming up in a little under 15 minutes. This is Skylab Control and here is the air-to-ground.

CC Skylab, Houston. We're AOS over Hawaii for the next 2 minutes. How do you read?

CC Skylab, Houston. We're AOS over Hawaii for about the next 3 minutes. How do you read?

CDR Read you loud and clear. How me?

CC Okay, same here. Sorry to bother you but we've got a short pass, a couple of important items I'd like to get up to you. We're going to be turning on your airlock module primary coolant loop. And that's going to give you a pri cool flow caution or warning loop.

CDR Okay. We're in the process of dumping the condensate plate as soon as we brought the thing on condensate tank filled to the top with water. We're working that problem right now.

CC Roger, understand it filled with water. Okay, we would like on panel 203 for you to take the mol sieve B fan power to secondary.

PLT It's in secondary, Houston.

CC Roger, thank you. We know you have been having some problems still with the AFCS and we're going to be trying to work those out for you a little bit later. So, just don't worry about them right now. We're trying to get back to solar inertial and didn't. We'll be trying - -

CC Rog. We said that we should be close to solar inertial attitude. We're not solar inertial mode, we'll be working that ourselves.

PLT Well, you're not even very close. You don't have (garble) Do you know where to go?

CC Probably not.

CDR Well I'm looking out the window and it looks as if you need plus rotation about Y and a plus about X. And I'm not sure of the magnitude, but about 10 degrees or more.

CC I'm sorry, I couldn't copy there. Did you say we were about 10 degrees off?

PLT We are more than 10 degrees off. It's hard to estimate, but it's a plus Y and a plus X rotation.

SL-11 MC-116/2

Time: 23:32 CDT 1:15:32 GET

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We are not going to touch it this time. We're going to let you guys fool with it. We'd like to get in solar inertial once so we'd know what it looked like and if we get off we can get ourselves back on.

CC Okay, we'll try to work that.

CC Okay, we've got a pass probably in about oh, Vanguard coming up. We'll be trying to work that then at around 4:46.

SPT Okay, what is the temperatures doing in the workshop there?

CC I'll try to get a report for you on that. Meanwhile, we'd like to find out if you did put the SEVA report on channel A or B. We're dumping A right now. We didn't see it there last dump.

SPT We haven't gotten to the evening reports. It is still about the middle of the afternoon for us. Pete and Paul are working pretty hard on the condensate system. They're cleaning up the command module and stuff like that.

CC Okay understand. We just want to make sure you did know that we were recording channel A. And you will be putting the medical status report on channel A for us later. Is that correct?

SPT Yes, and we're going to have a couple of large (garble) I think because we have enough other problems coming up. We're going to stick with it. We are in good shape and we've had our private medical talk. And we don't have anything to report.

CC Roger. I think all we are interested in there is the food and, you know, whether you took any drugs or not and that kind of stuff.

SPT We are eating like hogs and drinking lots of water.

CC Very good.

SPT - this evening status report and we'll get as much of this to you as we can.

CC Roger Joe, understand. If you could also put down, we would like sort of a relative amount of time spent between the airlock module MDA and the workshop today. I guess they're kind of interested in what kind of temperatures you were experiencing. You can put that on channel A.

SPT My off the cuff answer (garble) they can apparently get that by looking at my biomed tonight.

CC Okay, they were kind of interested in that for the other guys too though Joe. Okay, the skin tents have dropped about 70 degrees. We're going to have LOS here in about 1 minute. We're going to be over Vanguard at 4:46. We were kind of hoping that you guys were going to bed. Do you want us to give a call there or not?

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Time: 23:32 CDT 1:15:32 GET
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SPT Yes.

CC You want us to give you a call at
Vanguard understand.

SPT Roger.

CC And I guess I must have got somebody
there. We would like to verify that you did get the ele-
phant trunk installed between the OWS and the airlock module.

SPT Affirmative.

PAO This is Skylab Control. We have a
note now from Dr. Willard Hawkins on the medical briefing
earlier. This is a private conversation between medical
officers to assess the status of true health. It is not
to prescribe drugs or anything of that sort. Here is the
information given to us by Dr. Hawkins. "The crew has
remained in good physical condition during the first 2 days
in spite of a fatiguing first day and also in relation
to the thermal stress of today in the orbital workshop.
No symptoms of motion sickness have been experienced."
And that is the end of the report. This is Skylab Control
at 4 hours 38 minutes and 8 seconds.

END OF TAPE

SL-II MC-117/1

Time: 23:47 CDT, 1:15:47 GET

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CC Skylab, Houston. How do you read?

CDR Loud and clear (garble).

CC Okay. We're a little bit garbled. I'd like to talk about maneuvering here a little bit if I could, to Joe.

SC (Garble)

CC Roger. We are prepared to put a maneuver to try to reacquire solar inertial and there's some confusion on our part about whether we should go plus or minus Y. We understood you to say plus Y awhile ago. We think it's minus. Will you confirm that?

SPT Okay, let's talk about it. Maybe I'm getting it wrong. It would appear to take - to require a pitch above the Y axis. I was going to say toward the CSM, if that makes any sense to you. As I stand facing the CSM and look up the Z-axis, the Sun is forward of the zenith. It's - in other words, it's between the plus-Z axis and the plus-X axis.

CC Okay, that's a plus-Y. That - we got up there on the top of the MDA - we got the plus-Y axis indicated and that still sounds like a plus-Y rotation to us.

SPT Well, I thought it was. What have you got for X?

CC Okay, about plus 15 degrees.

SPT That sounds right.

CC Let's go back and review that again. You say the Sun is between the CSM and the ATM?

SPT Yes. That's right.

CC That's a negative-Y rotation.

CC You're right, you're right. Okay, it is a plus-Y rotation.

SPT Nyaaa nyaaa.

CC Okay. Okay, what we're going to do is put in a plus-Y rotation of 40 degrees and a plus-X rotation of 15 degrees. We got a maneuver time on it of 15 minutes. If we don't hack it this time we'll probably suggest turning it over to you. And before you would ever try to do it, you would need to - before you ever select solar inertial mode, you need to make sure that you put in a command to initialize your strap-downs because they're way off right now.

SPT Understand.

CC And for Pete or Paul, I guess maybe we'd like to ask a question. Is there any reason that duct 1 flow would be down now. We've got a substantial drop in it.

SPT (Garble) MDA. Oh, duct 1. No, not that I know of. I can go check it if you want.

SPT Talking about duct 1 in the workshop, right?

SL-II MC-117/2

Time: 23:47 CDT, 1:15:47 GET

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CC That's affirm.
SPT We didn't do anything. I'll go check it.
SPT If you're ready, let me give you
a status of our ECS, all right?
CC Okeydoke, go ahead.
SPT Okay, we presently are running both
condensing heat exchangers A, and mol sieve A and B. We just
finished a condensate dump into the waste tank. We have two
ducts. Ducts 1 and 2 were running in the workshop. We got
the airlock module duct fan on HIGH with all the mol sieve
air going to the workshop through that diverter valve. We've
got the MDA fans on low, the CSM fans on low, and the three AM
circ fans we just turned on about 5 minutes ago on LOW.
CC Okay, we copy. We got all four fans
running in ducts 1 and 2. Is that affirm?
SPT Hell I turned them on. I'll go check.
CC Okay.
SPT You still want to leave just ducts 1 and 2,
leave 3 off, right?
CC That's affirm.
SPT Okay. You say duct 2 is the low one?
CC Negative. Duct 1.
SPT Okay.
CC Rog, Joe. We have initiated a new one now.
And it might be - if you got time, it might be wise to take
a look out and see. Looks like we're going the right direction.
SPT Roger.
CC And CDR, Houston. If you got a chance,
I guess maybe we'd like to get an idea about how much longer
you guys are planning on working.
CDR I'm trying to make dinner. I don't think
we're going to work very much longer. I would like to go to
bed, but everytime we do, something comes up. Duct 1 for
600 plus; CSM.
CC Roger, understand. Duct 1 600 plus; CSM.
CDR Duct 2 (garble) 550 and duct 3 (garble)
75; CSM.
CC Roger, copy.
CDR And, Crip, as soon as we get into sur-
shine, I'll give you a hack on the maneuver. I guess it'll
be gone by then.
CC Roger. Also be advised that we're
starting to get a lot of feedback out of those SIAs. If you
might could do a little adjustment. I don't know whether it's
ringing there or not.
CDR Yeah, it is.
CDR Hey, Crip, how much temperature skid
drop are you getting. Does it really look like that the
shield's working?

SL-II MC-117/3

Time: 23:47 CDT, 1:15:47 GET

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CC That's affirm. It looks like it's really coming down. Did you hear my last call back when we were - at Guam I gave you a call that we'd dropped 70 degrees.

CC That's skin temp. I'll probably get a hack for you - what the workshop temperature inside - what we think it is. Okay, the next pass is going to be coming up at Ascension at 05:00. And would you like us just to forget that call?

CDR No, we're eating. We're trying to get to bed. I think that everybody shouldn't worry too much if we slipped a day, around here a little bit. Let us sleep in in the morning. (Garble) We're hanging in there. We've had a lot of (garble) come up today. You know - kind of held us back.

CC Rog, Pete. I'm getting an awful lot of feedback there still. We're going to have LOS in about 1 minute. We will give you a call at Ascension and I understand that your recommendation is you'd like to sleep in tomorrow.

CC And we concur.

CC And we would like to make sure that we have the VTR MAIN POWER switch left on because we want to dump it and take a look at that dump - parasol deployment - parasol, rather.

CDR Okay, Crip, and how's that on the squeal now? That should be a little bit better. We've completed everything today, but with all the rest of the little master alarms and the few things that came up, we're running a little behind. We'll sleep in. We'll press on with the day 4 just like it is in the book and hopefully we can catch up. You know, somewhere along in there and then we'll screw our day back around to the right time.

CC Rog, Pete. You're doing a fantastic job. (garble) sleep in.

CDR and besides that (garble) completed (garble).

PAO This is Skylab Control. We have loss of signal at Vanguard. The spacecraft is now traveling over the ocean on rev 181. We'll have acquisition of signal again at Ascension in about 3 minutes. During the conversation, one of the important points that was brought up is the pitch maneuver that has now been commanded at Vanguard. There was some question in the minds of flight controllers as to whether the crew had indicated that the craft was pitched up in their opinion or pitched down. And there was a question here whether they should do a 40 degree maneuver in one direction or the other. They did clarify that. The indication is that the crew - from the crew that there was a pitch up and we are pitched up 40 degrees, so we are now in the process of pitching down and we're also doing a roll of 15 degrees. And hope that we can get the spacecraft properly in solar inertial mode. They are not absolutely certain that 15 degrees is the right number, but

SL-II MC-117/4

Time: 23:47 CDT, 1:15:47 GET

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it gives them a fairly wide range of latitude. They know that it's something a little over 10 and 15 should get them well within range and they have a range of about 9 degrees. They also indicated that there are figures here on - from telemetry data was that we had a 75 cubic feet per minute air flow through duct 1 in the orbital workshop. However, visual inspection there indicated that that indicator was not reading properly. And we have a 600 cubic feet per minute reading which is a proper reading for that duct with four fans operating. Some of the noise you may have noticed earlier was feedback from a speaker intercomm and they did clarify that. They reduced the sound levels there and we got good clear voice after that. No figures yet on what the temperatures are inside the orbital workshop. It's about 70 degrees reduction in temperature on the outside of the workshop, but the inside of the workshop still has it's temperatures now leveling out, all at off-scale high. As you know before we had a lot of temperatures that were below 120 degrees because of their location, but once you have air flowing that 120 degree level is now pretty well spread throughout the workshop with the exception of a couple of temperature scales. Crew is presently eating and trying to get ready for bed. They have now been given an okay to sleep in in the morning. There will be no wakeup call given, and they may be asleep promptly after this Ascension pass which is now 50 seconds away. This again puts them a little bit behind the Flight Plan, but they hope to catch up in the next couple of days. This won't be a problem now that they have the major task fulfilled. This is Skylab Control. We'll be staying live now. In 36 seconds you should hear acquisition of signal at Ascension. The Ascension pass is about a 9-minute and 48-second pass. And that's now just 27 seconds away. They should be finalizing because after that we have a period of over 40 minutes before we have acquisition of signal again at Guam. And during that period we would expect them to have gone to sleep. This is Skylab Control.

CC Skylab, Houston. We're AOS over Ascension for the next 10 minutes.

CDR Rog. Have you all found the Sun yet?

CC We're waiting for you to tell us.

CDR Did you get my (garble) on the first

Skylab record?

CC Negative. You faded out there. Which

of the - -

CDR CDR is faded from a dredge airlock completing a complete 360 going through the OWS dome hatch without touching anything and not contacting till in the middle of the airlock. That's as far as we've made it so far. In our world breaking record attempt to go for the dredge airlock through locker AA the command

SL-II MC-117/5

Time: 23:47 CDT, 1:15:47 GET
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module without touching anything. Seeing who can complete the most
360.

CC Roger. Sure like to see that on TV
sometime.

CDR Well, we'll work it for you. Just let
us get the rest of the things squared away. We've just kind of
practicing enroute going back and forth during our busy pass.

PAO Skylab Control. We have 1 minute
and 18 seconds before daylight for the crew.

CC Skylab, Houston. Be advised that we
didn't make out very well on trying to find the Sun. And I
guess if you guys would like to give it a go, we would
appreciate it.

CDR Okay. It looks like we're a good bit
off at X.

CC How does Y look?

CDR Well, we overshot.

CC Okay, we got a couple more minutes left here.
The next pass is not going to be until Guam at 05:46 and we don't
plan on giving you a call for that one. If you're still up and
you need us for some reason, well go ahead and give us one.
It's 05:46.

CDR 46. Okay, Crip. Crip, meal status report
for the food people. The CDR ate everything today except his
asparagus for dinner. The SPI ate everything. The PLT ate
everything except the white bread and the macaroni and cheese
at dinner time. We think we got all the drinks, but to tell
you the truth we're really not sure because the packing on
these command module meals is strange and it's hard to find
everything.

CC Rog, we copy.

CC Okay, we are 1 minute to LOS.

CC And, Joe, we would like to remind you
once more about the strapdown initialization, because it will
be all fouled up when and if you do find it.

CDR Understand.

CC Okay, guys. I'll see you in a couple of
days here.

CDR Okay.

PAO This is Skylab Control at 5 hours 10
minutes and 50 seconds Greenwich mean time. We have lost signal now
at the Ascension tracking station as the spacecraft is going on it's
181 revolution traveling over the African - center part of
Africa and then up over the Soviet Union. And during the past conver-
sation they indicated that we did not - looking at our data
coming back from the ATM on battery charge, we noticed that

SL-II MC-117/6

Time: 23:47 CDT, 1:15:47 GET

5/27/73

we did not have the Sun. We're not getting the kind of data that we would expect when we have the Sun directly over the ATM. That means that we did not reach solar inertial which is what we've been trying to find. At that - at the time we do reach solar inertial we do a procedure call initializing strapdown which is essentially telling the gyros the attitude control system, that you now have the Sun directly overhead and then any variation from that will be recorded by the computers. Since we didn't - although we didn't get that we also have initialized strapdown, and we've informed the crew that they should now try to find the Sun. They are in a much better position to do it since they do have a visual references. And they'll be trying to reach the - get the Sun directly over the ATM and then they will again initialize strapdown. And at that time we will have solar inertial and hopefully the attitude problems will be entirely cleared up. The crew will be doing that before they go to sleep. We will not call the crew at Guam which is our next station in approximately 34 minutes and a half. But we may hear from them again if they are still up and are still working, and that's still a possibility. Still no idea of what the temperatures are in the inside of the orbital workshop because they have not yet come on scale at a 120 degrees. They should be doing that during the night and we expect to see something on that a little bit later. The external temperatures on the vehicle are substantially lower than they were earlier. This is Skylab Control. We'll be back up again on the hour or at the time we have acquisition of signal at Guam. Time now is 5 hours 12 minutes and 48 seconds Greenwich mean time.

END OF TAPE

SL-II HC-118/1

Time: 00:44 CDT 01:16:44 GET
5/27/73

PAO This is Skylab Control at 5 hours 44 minutes and 37 seconds Greenwich mean time. And we'll have acquisition of signal at Guam tracking station in about a minute and 50 seconds, possibly a little bit earlier, and at the Guam tracking station we may hear from the crew. We have no intention of calling up to them, although we may hear from them, if they're not yet asleep. Television video tape during parasol deployment earlier today, about 6 minutes of it will be transmitted to the tracking station at Guam during this pass at - We now have telemetry from Guam just announced. The television video tape will be held at Guam until 1:50 a.m. central daylight time, at which time it will be relayed by communication satellite to Johnson Space Center. And that will be about 6 minutes, beginning at 1:50 a. m. central daylight time. We'll have AOS any second. Flight Controllers announced that they have found the Sun, the ATM is correctly aligned for solar inertial. That's good news on attitude control for everybody here. This is Skylab Control, and we'll be quieting down now, until we hear from the crew.

PAO Skylab Control. It appears still that we will not hear from the crew during this pass, which may indicate that they've already decided to tuck in for the night. For the first time we're getting to get some of the temperature sensors in that orbital workshop back on scale. Temperature sensors in the experimental compartment ceiling are now reading 119.6 degrees and 116.5 in another location in the same area. The wardroom ceiling, which has stayed on scale during the night had been reading 113, and that's a little higher than before, and that's because of the air flow in that and the orbital workshop. During the night we expect to see most of those off scale high readings come back on scale of 120 degrees or below. This is Skylab Control. We still have 3 minutes and 40 seconds before LOS, and we'll come up again after we have lost signal.

CT Guam Com Tech. Houston Com Tech Net 1.
CT Guam Com Tech Net 1
CT I'm reading you loud and clear.
CT I read you loud and clear.
CC Skylab Houston. Are you trying to call?
CC Skylab, Houston. We're over Guam, and I understand you're trying to call us.

PAO Skylab Control. We have loss of signal at Guam. We received information from the Guam tracking station that they were hearing voice on the spacecraft, and spacecraft was trying to reach us. They then emptied

SL-11 MC-118-2

Time: 00:44 CDT 01:16:44 GET
5/27/73

to patch a radio message through on another line and did not have any luck with that, so we did not hear from them, although Capcom here did try to call a couple of times. As I was saying, television video tape was dumped at Guam. We expect it in approximately 6 minutes. The actual amount of tape dumped is not certain at this time. That television video tape is going to be held at Guam until 6:50 Greenwich mean time or 1:50 a.m. central daylight time, at which time it will be relayed by communication satellite to Johnson Space Center, beginning at 7:21 Greenwich mean time, or 2:21 a.m. central daylight time. An additional 11 minutes of video tape onboard space station recorders will be telemetered to the Guam tracking station, and relayed immediately to Johnson Space Center. So that means we'll be getting 17 minutes, approximately, of television video tape of the parasol deployment done earlier in the day. That will all be coming to us beginning at 1:50 a.m. CDT. and finishing sometime after 2:30 a.m. central daylight time. Next opportunity for communication with the spacecraft will be probably only telemetry data is going to be at the Vanguard tracking station in a little less than 29 minutes. This is Skylab Control at 5 hours 55 minutes and 27 seconds Greenwich mean time.

END OF TAPE

SL-II MC-119/1

Time: 01:00 CDT 1:17:30 GET
5/26/73

PAO Skylab Control at 6 hours and 30 seconds Greenwich mean time. At this time, we've gotten indications from our communications officer that the television dump at Guam gave us only 3-1/2 minutes of video tape instead of the original 6 intended. And there is some question of how much of that final 11 minutes we may be able to get on the next Guam, next Guam dump which is at approximately 2:21 a.m. central daylight time. At this time, the indication we have is that they will make a definite attempt to get the final 4 minutes of that to get some idea of what the deployment looked like at the end. And we don't know if we will get more than 4 minutes of that second dump for that reason. So right now it looks like instead of a possible 17 minutes, we may have something more on the order of 7 or 8 minutes of videotape from the parasol deployment. This is Skylab Control. Our next acquisition of signal is not for about 30 minutes, I take that back, not for about 22 minutes. And we'll come up again then. This is Skylab Control signing off at 6 hours 1 minute and 33 seconds Greenwich mean time.

END OF TAPE

SL-II MC-120/1

Time: 01:22 CDT 1:17:22 GET

5/26/73

PAO Skylab Control at 6 hours 21 minutes and 56 seconds Greenwich mean time. At the present time, we are about 1 minute and 52 seconds from acquisition of signal at Vanguard. After the Vanguard acquisition, there will be another acquisition at Ascension. And following Ascension, there will be no acquisition until, oh I take that back there is at Ascension. Then there is an acquisition of signal also at Canary Islands immediately after that. So we have several passes following in a sequence here before we go out of tracking range. And during this pass, we expect to see some indication of maybe some temperature decline. Other than that we do not expect to hear from the crew. They should be well asleep by now. We may get some biomedical data that will indicate one way or another what status the crew might be. We have acquisition of signal there in about 1 minute. And we'll give you some indication of what's happening as soon as we see something on telemetry data.

END OF TAPE

SL-II MC-121/1

Time: 01:27 CDT 1:17:27 GET
5/27/73

PAO This is Skylab Control at 6:27:06. The biomedical officer has informed them that the science pilot is not wearing his biomedical equipment. And has asked that he be awakened to put on that biomedical equipment. We did not get data last night and it is mandatory that they get data tonight. And that is now being discussed with Kenneth Kleinknecht Skylab Program Manager at Johnson Space Center and Flight Director Donald Puddy. There may be a call made by a capcom after this discussion. We'll stay in line for the next few minutes. We have acquisition of signal at Vanguard.

PAO Skylab Control. We have 5 minutes and 30 seconds until loss of signal at Vanguard. And the discussion is still continuing about what things may be brought up with the crew if there is a discussion with the crew and if they are awakened. We don't know, of course at this time, if they are asleep or awake. But we have not heard from them since before the Guam pass, more than about an hour ago since the last time we have heard anything from them.

PAO This is Skylab Control again at 4 minutes before loss of signal. Flight Director Donald Puddy has requested his flight activity officer to give him an indication of whether or not he believes the crew is asleep. The flight activity officer says he does believe that is the case. And Flight Director Donald Puddy says that they will not be awakened, at this time, to put on the biomedical operational unit. And they will, for that reason, have no biomedical data tonight. It is believed that they are asleep after a very long day and they didn't feel that it would be worthwhile to wake them up at this point after they may have been asleep for as long as half an hour. And so for that reason, they will be receiving no biomedical data tonight and they will be expected to wear that equipment later. This is Skylab Control and we will go off again. Let me give you a little information first about what we saw in the way of temperatures. Temperatures appear to be dropping on a regular steady rate now. Although 11 of those temperature sensors in the atmospheric area of the orbital workshop are still reading off-scale high, that is to say, they are reading 120 degrees, the maximum they can read. If they go above that level they don't give any readings, they just give a high reading. And there are, however, four on-scale readings in the orbital workshop area. And those have dropped from one half to 1-1/2 degrees during the last 30 minutes. And that's a very definite indication that the

SL-II MC-121/2

Time: 01:27 CDT 1:17:27 GET
5/27/73

temperatures are coming down in the orbital workshop area

We still have no estimate of the overall temperature in that workshop. Since we - our thermal studies were based on a different situation than we have right now. But, that does indicate that the temperatures are coming down at possibly the rate of a couple of degrees an hour. And whether that will vary or not, we really don't have any knowledge at this time. This is Skylab Control at 6 hours 32 minutes and 35 seconds Greenwich mean time.

END OF TAPE

SL-II MC-122/1

Time: 01:47 a.m. CDT, 1:17:47 GET
5/27/73

PAO This is Skylab Control at 6 hours 47 minutes 40 seconds Greenwich mean time. We're about 2 minutes and 15 seconds now from a television release of about 3-1/2 minutes of film taken of the parasol deployment earlier yesterday. And you'll be able to see that on television monitors here and that will be available again later for an edited release sometime later this morning. You might be interested in knowing that at Ascension we got additional tracking data indicating that temperatures have dropped a little bit further. Some of those drops now are reading in the neighborhood of 2-1/2 degrees on sensors. We still have a number of scale - number of sensors reading off-scale high, as before, but temperatures now seem to be down from 1-1/2 to 2-1/2 degrees on most of those sensors that are available in the workshop. This is Skylab Control at 48 minutes and 28 seconds after the hour.

END OF TAPE

SL-II MC123/1

Time: 02:18 a.m. CDT, 1:18:18 GET
5/27/73

PAO Skylab Control at 7 hours 18 minutes 58 seconds Greenwich mean time. We've just had the horn sounding now in Mission Control for acquisition of signal at Guam. We're expecting Guam to provide us with television, probably in the amount of about 9 minutes. We have a maximum of possibly 11 minutes at Guam. And, we expect about 9 minutes of video tape time. This will be video tape again of the deployment. There is a satellite relay system set up to transmit this immediately to Johnson Space Center and we should be seeing, then, possibly the 9 minutes and this will include the final 9 minutes of television time. Those final 9 minutes should show the final deployed state of that parasol. The crew as it turns out has - the science pilot has put on his operational biomedical system. His biomedical telemetry data started coming down a little before 07:00 hours Greenwich mean time. And, that was a big relief to people here in Mission Control because they were again considering possibly waking the crew up. As it turns out, indications are that, at least the science pilot had not gone to sleep as of just before 07:00 Greenwich mean time or 2 a.m. central daylight time. And, immediately following that, they set on a plan that will allow them to sleep until 10 a.m. central daylight time tomorrow. If they have not awoken of their own accord by 10 a.m. central daylight time, or 15:00 Greenwich mean time, they will be awakened by a call from the ground. So, we're about 1 minute from acquisition of signal at Guam and we will be watching some TV live transmitted by satellite from the Guam tracking station as soon as it's within range and they can set up the telemetry instructions to get that off of the tape recorders aboard the spacecraft. This is Skylab Control. Stay tuned for television from Guam. Seven hours 20 minutes and 52 seconds Greenwich mean time.

PAO Skylab Control; we have data - telemetry data coming down now and that indicates the temperatures have continued to drop. During the last 1/2 hour, they have dropped another degree on several of the sensors. We still have a good many of them reading above 120 degrees on the off-scale high readings, but there are the four on-scale temperatures have all showed drops and those drops are generally in the neighborhood of 1 to 1-1/2 degrees. So, that means their temperature is coming down. We have temperatures now in the range of 112 to 117 on those on-scale temperatures transducers in the orbital workshop area. Temperature is still very cool back in the command module and MDA duct area. That's about 60 degrees right now. And, once that air gets circulating and temperature on the outside has been brought down over a long period of time, you will see those temperatures dropping.

SL-II MC123/2

Time: 02:18 a.m. CDT, 1:18:18 GET
5/27/73

We expect they may be down in 100-degree area by some time tomorrow. Skylab Control, and TV should be coming up any time now.

END OF TAPE

SL-11 MC-124/1

Time: 03:06 a.m. CDT, 1:19:06 CET

5/27/73

PAO Skylab Control at 8 hours 6 minutes and 47 seconds Greenwich mean time. At the present time, the spacecraft is in range of the Vanguard tracking station; and, it's beginning an ascending node of the 183rd revolution, just beginning its 183rd revolution, traveling north to the northeast over South America. The dump of television at Guam station during two passes did not complete the total amount of video tape that have been recorded earlier by the crew. There's approximately 10 minutes, estimated, left on that video tape recorder and the plan now is to dump that video tape tomorrow morning at Goldstone during the first opportunity, which is at 14:35:34 Greenwich mean time, that's 9:35:34 a.m. central daylight time - during the Goldstone pass. If that is not completed, it will be - the remainder of the video tape will be dumped at the next opportunity following that. Both coolant loops are now operating. Both the primary coolant loop and the secondary coolant loop are functioning as heat exchangers in the orbital workshop attempt to cool the 100-ton spaceship. Exterior skin temperatures are now to 118 degrees and this should be reflected in temperature drops in the next several hours. By crew wakeup at 10:00 a.m. central daylight time, temperatures should be at about 100 degrees in the workshop, with internal metal surfaces somewhat cooler. The four temperature measures that are on scale in the atmospheric chart of the orbital workshop have dropped from 1/2 to 1 degree in the past half hour. An additional duct sensor previously reading off-scale high has now come on-scale as the metal structure of the workshop cools beneath the thermal parasol deployed yesterday. More film, as I indicated earlier, of that parasol deployment, will be available tomorrow morning after 9:35 a.m. central daylight time, during the Goldstone pass. We've had no additional problems. Indications from the biomedical equipment that's worn by the science pilot, Joseph Kerwin, indicates that he is now sleeping or apparently asleep. His heart rate and breathing indicates that he is, at least, in very deep rest period and probably sound asleep. And we will probably have no additional reports. Until the next hour, this is Skylab Control at 9 minutes after the hour.

END OF TAPE

SL-11 MC125/1

Time: 04:11 a.m. CDT, 1:20:11 CET

5/27/73

PAO Skylab Control at 9 hours 11 minutes and 25 seconds Greenwich mean time. At the present time, we're receiving tracking data from Honeysuckle tracking station. Telemetered data coming down, giving us temperature readings again. These temperature readings indicate that we're about one degree lower than we were an hour and 15 minutes ago. And, those temperatures have continued to come down. We have a range of temperatures right now around 109 to 113 in the temperature transducers that are reading on scale around the sleeping compartment and the experimental compartment ceiling and the wardroom. So, that indicates that those temperatures have started coming down as we expected they would do earlier. There have been no new problems. We did have a slight power problem with some of our screens here, but that was only very brief and has not affected any of the telemetry or monitoring here in the Mission Control. Don't appear to have anything coming up of extreme importance. As you know, wake up time is scheduled for 10 a.m. central daylight time, provided that the crew does not wake up earlier than that. They are believed to have gone to sleep about 2 a.m. This is Skylab Control at 9 hours 12 minutes and 37 seconds Greenwich mean time.

END OF TAPE

SL-II MC-126/1

Time: 05:00 a.m. CDT, 1:21:00 GET
5/27/73

PAO Skylab Control at 10 hours and 5 seconds Greenwich mean time. At the present time, the temperatures in the orbital workshop continue to cooldown steadily. Our last tracking is at Bermuda station. We're just about to lose signal there. Temperatures continue to cool. This is a tribute to the successful deployment of the thermal parasol yesterday. Over the past 4 hours, temperatures have dropped about 5 to 8 degrees on several sensors in the orbital workshop area. While some indicators still show no legitimate readings below their off-scale high reading; that's an H that's signaled here on mission control displays, indicating that they are 100 de - 100 to 120 degrees depending on the individual sensor. Several on-scale readings are in the 109 to 112 degree range. And these temperatures around 110 are expected to come down to near 100 degrees by the 10:00 a.m. central daylight time wakeup call to be given to the crew, provided the crew has not awoken by that time. At this time, the pressure in the cabin is staying a steady 5 pounds per square inch. And, of that, 80 percent is the reading in oxygen. That's 80 percent oxygen, 20 percent nitrogen on the cabin at this time. The coolant loops are both in operation, attempting to take out as much heat as possible, using the heat exchangers. This is essentially an air conditioning unit and both coolant loops - normally one coolant loop is used by itself. We've - now had both of them operating simultaneously to try and lower that temperature as much as possible. The main effect, however, is coming from the deployed solar shield. That thermal shield on the sola/ - scientific airlock is working very effectively to bring down the metal temperatures. And those metal temperatures are slowly but surely being converted into temperatures in the air inside. Still - still rather warm in there, but they expect that it is going to be warm and very dry when they go in in the morning. But much more comfortable that it was today. Temperatures back in the command module and multiple docking adapter areas are quite a bit cooler in the multiple docking area duct. There is a temperature of 58.8 degrees, which is considerably cooler and there are circulating systems and fans blowing that air around to try and equalize the temperatures as much as possible. We are expecting to see some more television of that solar - that deployment of the solar shield that they put up, the parasol. And that will be coming in after 9:00 a.m. central daylight time during the Goldstone pass on revolution 186. That Goldstone pass is still quite a little ways from us, several hours off. But we should be seeing some good television of the final deployment of that solar shield at that time. This is Skylab Control at 3 minutes and 2 seconds after the hour.

END OF TAPE

SL-II MC-127/1

Time: 06:25 a.m. CDT, 147:11:25 GMT
5/27/73

PAO Skylab Control, Houston at 11 hours 25 minutes Greenwich mean time. We presently show the Skylab orbital assembly on its 184th revolution and now approaching acquisition by MILA. And the current orbit, 239.2 nautical miles by 235 nautical miles. The crew aboard Skylab, still in their rest period, still sleeping. Our day 3 Flight Plan shows a time of wakeup at 15:00 hours Greenwich mean time, or 9:00 o'clock central daylight time, when under acquisition through Canary. We're at 11 hours 26 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TIME

SL-II MC-128/1

Time: 06:26: a.m. CDT, 147:11:26 GMT
5/27/73

PAO Skylab Control, Houston. A correction to
our last announcement. The Greenwich mean time is 15:00 hours,
however, that should read 10:00 a.m. central daylight time.

END OF TAPE

SL-II MC129/1

Time: 7:00 a.m. CDT, 147:12:00:00 GMT
5/27/73

PAO Skylab Control, Houston; at 12 hours Greenwich mean time. We now show the orbital workshop off of the west coast of India. The crew is still sleeping; due to continue in their rest period until 15:00 hours Greenwich mean time. Meanwhile, we do plan a repeat dump from last night's television, which came in at approximately 1:50 a.m., and this the scene from the command module looking at the orbital workshop and the parasol deployment. This should be available on the television monitors in the news center. And that would be at 7:59 central daylight time this morning. I repeat, 7:59 central daylight time this morning. Skylab Control at 12:00 hours Greenwich mean time.

END OF TAPE

SL-II MC130/1

Time: 07:21 CDT, 147:12:21 GMT

5/27/73

PAO Skylab Control, Houston; at 12 hours 21 minutes Greenwich mean times. Monitoring data here appears that one of the crewmembers might be awake. We'll stand by for a possible call from CAP COM, Henry Hartsfield. Skylab presently passing over Carnarvon.

PAO Skylab Control, Houston; at 12 hours 23 minutes Greenwich mean time. Still standing by for a possible callup. Indications on the part of the surgeon's data gives us a possibility that the science pilot is awake, Joe Kerwin. But we'll stand by and see if the call is made by CAP COM, Henry Hartsfield.

CC Skylab, Houston. Good morning.

SC Morning, Houston.

CC We see your code in the DAS there. We also see you've got an attitude problem, and we're working on that.

SC Oh, what's the attitude problem?

CC We - we think we're out a little bit in Z. Right after you found the Sun for us last night the - It appeared that we were having a few problems in the Z. We can't get our drift nailed down. We've taken out about 30 degrees with a - two maneuvers and a couple of dumps and we think we need to go another 30 degrees in Zplus. And we'll have a procedure for you here at - at Honeysuckle. We're about oh, 30 seconds from LOS now. We'll be coming up on Honeysuckle at 29.

SC Okay, what time would we have gotten up this morning, if it was a normal wakeup?

CC Okay, we had you scheduled for about 15:00 Zulu.

SC I meant - We should have gotten up at 11:00, right? In normal flight plan?

CC Roger. That's the nominal time, Pete, but we were going to let you sleep late since you didn't get to bed so late - until late last night.

SC Okay, well, we're slowly trying to work our way back to the normal schedule. That's what I was trying to figure out. Say, what's your cooling look like? We just zapped down in the OWS. We were trying to figure out how well it was doing. It appears to be working very well in some spots, but not so well in the others. What's - what's your temperature profile show over the night?

CC Stand by 1.

PAO We've had loss of signal with Carnarvon. Next station to acquire will be Honeysuckle in about 3 minutes.

PAO Procedures report that Honeysuckle acquisition could be some what ragged because of the very low elevation angle.

SL-II MC130/2

Time: 07:21 CDT, 147:12:21 GMT
5/27/73

CC Skylab, Houston. Looks like we been dropping about a degree an hour. We've got a lot of our temperature measurements back on scale now. We're showing some duct temperatures around 95, 98 degrees, which is in the workshop, which is down from what it was.

SC Okay. How does skin temp look? Got any idea how much percentage coverage you got with the sail now?

CC Okay, the guys are looking at that. We'll try to have a better picture for you a little later.

SC Okay, we're feeling walls around here. There's no doubt about it, the temperature's come way down in a lot of places. Of course, there's a lot of heat inside here but seems pretty good on the - oh, down around the bedroom and everything. But, over on the right hand side of the SAL where the sail looked a little squeezed, the wall temperature's still a little high. I don't know, we may have some local hot spots up there. But by a margin seems to be coming down quite a bit.

CC Roger, and we're about 30 seconds from LOS now, Pete. Texas will be coming up at 59.

SC Okay, we're going to grab a quick breakfast to get with it. We would like to try and get to bed tonight no later than an hour late. I - we're trying to get back on your time line. I know everybody wants us back on it. We're doing the best we can.

CC Okay, and we're planning on having you do a maneuver for us, if you will, over the states.

SC Okay.

PAO Skylab Cont - -

SC - get us a star tracker update, if you can.

CC Okay. Looks like we do have another minute or so on this contact here.

SC If you get us a (garble) star tracker bad, it would be awful nice if we could acquire one.

CC Our problem on the star tracker is, we're not really sure where you are in Z. So, we're having a little trouble computing those angles for you.

SC Yeah, I know. And, that's our problem out the window, also. If you guys could think about giving us a visual gouge, for instance, what our apparent yaw angle thought to be at various parts of the orbit sunrise, noon, and so on, that it might give us a hack on Z.

CC Roger, we think you need about a plus 30-degree maneuver, but we'll have that worked out for you stateside.

SC Okay.

SL-11 MC130/3

Time: 07:21 a.m. CDT, 147:12:21 GMT
5/27/73

PAO Skylab Control, Houston; at 12 hours 32 minutes Greenwich mean time. We've had loss of signal at this time with Honeysuckle. As we heard, the crew aboard Skylab awakening early, punching up on their DAS a display a number which identified to the ground that they were awake and prepared to talk, if we had something to say. As you heard from Henry Hartsfield, we have seen some - some drifting of the spacecraft in the - the yaw axis. The crew sounding alert and ready to go. Awakening somewhat earlier than - than the flight plan had called for. At 12 hours 33 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-131/1

Time: 07:41 CDT, 147:12:41 GMT

5/27/73

PAO Skylab Control, Houston; at 12 hours 42 minutes Greenwich mean time. The television dump from MILA coming in early, now being received on the television monitors. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-132/1

Time: 7:58 a.m. CDT, 147:12:58 GMT
5/27/73

PAO Skylab Control, Houston; less than 1 minute now from acquisition by Texas. On the 185th revolution for the Saturn workshop, we now show Skylab with an orbit of 239.2 nautical miles by 235 nautical miles. We'll stand by and monitor this stateside pass.

CC Skylab, Houston; stateside for 17 minutes.
CDR Hi there, Houston. What can we do you for?
CC Okay. Would you like to work on this

maneuver?

CDR Yes, Henry. You are - We'll copy it down.

I'll tell you - You know it starts us out behind the power curve, because unfortunately all this food should have been in the wardroom by now, and we just - We've been down here for 15 minutes just trying to sort out breakfast, and we haven't even started on it. And it really puts behind the power curve. Until we get that wardroom going, every meal hour is just ah - it's juggle 87,000 cans down here in the command module. And ah - ah - Do you want to give us something to copy down, or would you like somebody to go start the maneuver?

CC I guess we'd like to get somebody, if it's convenient, Pete, get someone right away on this maneuver, so we can try to get our attitude sorted out.

CDR Okay. We're going to send Joe up there while we make his breakfast.

CC Okay. That sounds like a good plan.

CC Pete while you're putting your breakfast together there, we'd like to throw out something for you to be thinking about. We're tentatively looking at the possibility of a Press Conference this afternoon shortly after 21:00.

CDR We're, we're what - what - You mean 21:00.
Wat's that local time?

CC Roger. That's ah - ah - a little after 4:00, local.

CDR Okay. Look, on a noninterference basis, fine. We're doing the best we can to get back on a normal schedule. And I sure hate to stop working, especially if we're behind. And the way I look at it right now, we're still just a tad behind, mainly because of this meal prep and everything. We're a little behind on our stowage transfers. We've kept up pretty well with - with activation. If you all want us to have a press conference, fine. But, let's make it short, okay?

CC Roger. We concur with that whole heartedly,
Pete.

SPT Houston.

CC You down at the ATM, Joe?

SPT Yeah.

SL-II MC-132/2

Time: 7:58 a.m. CDT, 147:12:58 GMT

5/27/73

CC Okay. I'd like to give you the maneuver information first, if you've got something to jot it down on.

SPT Come ahead.

CC Okay. The first thing we'd like to get off is a nominal H cage. That's 52023. Then we want the MODE switch to ATT HOLD CMG. Then we're going to do a 30-degree plus-Z maneuver. And that's 52020, 50000, 50000, 50036, then a strapdown initialization, which is 52012, 50005. And after that, MODE switch to SOLAR INERTIAL. And you do not want to start the procedure until the dump is complete.

SPT Okay. I understand all that, and I'll only read back the maneuver, which is a 52020, 5000, 5000, 50036. And it's been suggested up here, that if we could activate H-alpha in our monitor and get a description of the Sun, we might come as close to the right roll angle that way as any other.

CC I guess we - we think your roll is not in too bad a shape. The yaw is the problem.

SPT Okay. Spacecraft yaw solar roll, which is directly related to Z.

CC Okay. We copy.

CDR Okay, Hank. For another - for another data point, we're going to press right into day 4. I think the workshop is quite workable right now. It's probably 95 or 100 down there. It's very dry. And we'll use the same technique we did yesterday. When anybody gets too hot, we'll quit, come up, and cool off.

CC Roger. Copy. Sounds like a good plan.

CDR Also, by the way, Hank. I made a handy-dandy hand temperature wall survey just a little while ago. And the ah - I - I believe the crinkle's out on one side of the sail, but I think on the other side of the sail, if I were facing the solar airlock, the crinkle is on the right side over towards about where M509 is mounted. That's still pretty hot on the wall. But, everything else seems pretty good below that, and above that, and all the way around on the other side of the vehicle, 90 degrees around from the airlock.

CC Roger. Copy.

CDR I don't know what your skip gap data shows, but that's what my hand-held data shows.

PLT Hey, Henry.

CC Go ahead.

PLT Let me give you an update on the PLT's food yesterday, all right.

CC Okay.

PLT I'll give you a list of items I did not (garble).

CC Stand by 1.

SL-11 MC-132/3

Time: 7:58 a.m. CDT, 147:12:58 GMT
5/27/73

PLT There'll be one thing I'm not going to
eat. I've got bread coming out of my ears, and I don't like
bread. Butterscotch pudding, apricots, and coffee with sugar.
The last three were snacks that I just didn't even know that I
had until I turned in last night and then it was too late.

CC Paul, we had a drop out in signal here,
could you repeat everything prior to the butterscotch
pudding?

END OF TAPE

SL-II MC-133/1

Time: 08:07 CDT, 147:13:07 GMT

5/27/73

SC Okay, ambrosia, macaroni, and bread.
And, there's a lot of bread that I'm not going to -
CC Say again, your comment about the bread.
SC It wasn't worth it. Forget it.
SC Okay, Hank. I have one update.
CC Okay.
SC I didn't eat my snack last night either.
I couldn't find it. We - I ate everything else except the
asparagus which was already reported, Ed. We'll try and do bet-
ter for you but we're using the menus out of the checklist, now
and finding the - finding the food. But yesterday we were a
little behind the power curve. But, until we get this food
down in the pantry and can get organized in the wardrobe,
it's like three guys eating at the rush hour at Times Square,
inside this command module.
CC Roger, copy.
CC Skylab, Houston. For information, we
- we got our tapes back last night and we had a carrier but
we didn't have any of the SEVA comments. So, I don't know
whether you remember them or not but perhaps some time today
we could - if you got a free moment you can answer those
questions again on a tape for us.
SC Yeah, you didn't miss naything Hank.
They didn't do it because I forgot about it until I got into
bed. Now we can either do them real time if you got a good
long pass or I can put them on tape.
CC Okay, it's your choice, Paul.
SC All right. I'll try to get around to
it this morning.
CC Okay. - -
SC - - get the television back on the deploy-
ment?
CC Well, we looked at the TV pictures
we got here, and they're still missing those things. It
did look like it didn't quite go all the way out; but, well,
we'll take - we'll give you the results of what we come up
with.
SC Okay.
SC How was the biomed last night, Henry?
SC Roger, look good down here, Joe.
CC And, Joe, when you get through with
the maneuver - when it's complete and then you'll do your
strapdown disposition - the rest of that. We've got a star
tracker pad for you that goes on the acquisition cue card
for reduced power.
SC Okay, wait until I get the maneuver
going. And incidently, you guys never recommended maneuver
time? Or shall I guess?
CC Roger. Go with what you have now.

SL-II MC-133/2

Time: 08:07 CDT, 147:13:07 GMT

5/27/73

I - - SC Well, what's that for information, Henry?

CC Six minutes.

SC I'd like to know what's in there.

CC Roger. Six minutes is in there now,

Joe.

SC Okay.

CC SPT, Houston. When you get a - break there at the console, I got three switches I want you to hit.

SC Okay, read them up.

CC Okay, we - on panel 207, now that we got the ATM coolant loop up, we'd like to get you to ENABLE on the caution and warning. The pump DELTA-P coolant temp and heater temp under ATM canister.

SC Roger.

SC And, I'm ready to copy the star tracker pad.

CC Roger. The star is Canopus and it will be available day, 28:00; night, 03:00. Inner gimbal minus 0660; out of gimbal plus 1620; and up at the top there I missed, that should be 5,000 and in the box goes 1. Remarks do not enable R-plane error update until you get a go from the ground. In other words, do not do 52011, 50011 until advised.

SC Okay, understand that and I'm - think I'll also do this without computer control of the star tracker, to let it go into wide search.

CC Okay, that's good.

CC Skylab, Houston. We're about 30 seconds from LOS. We'll be coming up on Madrid at 20 and we plan to dump the recorder there.

SC Roger.

SC Say, Hank. Tomorrow why don't you plan on giving us revelie.

CC Roger, will do.

PAO Skylab Control, Houston; at 13 hours 16 minutes Greenwich mean time. We've had loss of signal with Bermuda. Madrid to acquire in approximately 4 minutes. The crew awakening early this morning sounds cheerful and ready. We heard from all three crewmembers during that pass, Conrad, Weitz, Kerwin. Meanwhile, Joe Kerwin, getting data from the ground, making inputs into the attitude and pointing control system aboard the orbital workshop. To know the vehicles drift in yaw, the APCS is commanded manually by the astronauts at the control and display console of the Apollo telescope mount. While Kerwin is doing this, Conrad and Weitz are preparing breakfast aboard the command module.

SL-II MC-133/3

Time: 08:07 CDT, 147:13:07 GMT
5/27/73

We're at 13 hours 17 minutes Greenwich mean time. Continuing
to monitor, this is Apollo Control, Houston.

END OF TAPE

SL-II MC-134/1

Time: 8:18 a.m. CDT, 147:13:16 GMT
5/27/73

CC Skylab, Houston through Madrid for 7 minutes.
CDR Hi there.
SPT Okay, Houston. I just now went back to
SI. The maneuver's complete, and I'll get the star now if I can.
CC Okay.
CC Joe, we're looking at data now. We can't
tell you whether you're there or not, but it looks better
than anything we've seen all night.
SPT Okay.
CDR Give us another day, Hank baby, and we'll
have this baby perking along just like it's supposed to be.
CC That's what we like to hear.
CDR I'm feeling pretty spunky. Got a good
night's sleep, just had a little sausage, a little scrambled
eggs, and I'm working on my jam and bread, with a little
coffee goes pretty well this morning.
CC That's sound good to me. I haven't had
my breakfast yet.
CDR Sorry about that.
PAO Skylab Control, Houston; at 13 hours 24 min-
utes Greenwich mean time. A little more than 3 minutes
remaining on this Madrid pass. The crew aboard Skylab, all
three crewmembers awake. At least Conrad and Weitz, at this
time, having breakfast, expected to be rejoined shortly by
Scientist Pilot, Joe Kerwin, who has been working at the display
and control console of the apollo telescope mount. Standing
by, continuing to monitor any conversations between the crew
and CAP COM, Henry Hartsfield, this is Skylab Control, Houston.
CC Skylab, Houston. We're about 30 or 40 sec-
onds from LOS. Next contact is Honeysuckle at 07.
SC Okay, Houston. I'm searching for the
star now. The tracker hasn't found it yet. We'll talk about
it at Honeysuckle.
CC Okay.
PAO Skylab Control, Houston; at 13 hours 28 min-
utes Greenwich mean time. We've just had loss of signal
through Madrid. The next station to acquire will be Honey-
suckle, some 39 minutes from this time.

END OF TAPE

SL-II MC-135/1

Time: 9:06 a.m. CDT, 147:14:06 GMT
5/27/73

PAO Skylab Control, Houston; at 14 hours 6 minutes Greenwich mean time. We're less than 1 minute away now from acquisition with Skylab through Honeysuckle. This should be a very short time of acquisition somewhere in the order of 1 minute and 30 seconds. And we'll stand by and monitor conversation with the crew aboard Skylab as conversations develop. Our CAP COM in mission control, Henry Hartsfield.

CC Skylab, Houston through Honeysuckle for a minute and a half.

SPT Houston, SPT. I've acquired a star and the gimbals angles are 0 minus 0618, and the hour is plus 559, and the ah - I'd like to go to - to update orbital plane here.

CC Roger. Stand by.

CC Joe, we'd like to look at this data for a little while, and it'll probably be stateside before we give you a GO there.

SPT Okay.

CC Skylab, Houston. We're about 30 seconds from LOS. Goldstone will be coming up at 36.

SC Roger.

PAO Skylab Control, Houston; 14 hours 9 minutes Greenwich mean time. We've had loss of signal now with - - (Garble).

SC (Garble).

SPT By activating the OWS TCS. Once I get it powered up, do you want the (garble). You want the OWS - You want the OWS HEAT EXCHANGER switches left on, or do you want me to switch them to OWS?

CC Roger. Switch them to OWS, per checklist. Checklist is (garble).

SPT

PAO Skylab Control, Houston. We had a stretch out in that acquisition time, apparently, over Honeysuckle. Next station to acquire will be Goldstone at approximately 25 minutes. When we looked at Skylab from the control center, Joe Kerwin was at the Apollo telescope mount star Tracker. This is designed to provide the star position inputs to the digital computer of the ATM for calculating the roll reference angle and orbital plane error. We'll stand by to pick up Skylab after acquisition at Goldstone.

END OF TAPE

SL-II MC-136/2

Time: 09:34 a.m. CDT, 147:14:34 GMT

5/27/73

and perhaps that'll replace the press conference or something. You all get - can get enough out of that and we keep working.

CC Roger.

SC We just put a couple of tripple flippers on there for you and everything so you ought to have some good stuff.

CC Okay, good show.

SC And the CDR's at wardroom activation.

CC Okay, Pete. Could you give us a quick run down if it's convenient, on where you are time line now?

SC I'm at wardroom activation. The PLT just finished hooking up the water tank 7. We're just moving into the waste management compartment. Right now, I'm starting day 2 bake out initiate.

CC Roger, copy.

SC Okay, and the SPT is doing the waste management compartment activation page 2-8. And, Hank, I'd like to know how the star acquisition data look to you. And also whether you guys are looking around for a - not for us to put the cover - the pyro cover back on the probe. What we like to do is, as soon as we get a free hour or so, is to attempt to engage the probe in the drogue in a more or less normal way, so that we'll have confidence we can do it when we deactivate.

CC Okay, I'll let you know what's going on down here. Rusty is working up a procedure with some of the fellows or troubleshooting that probe. And we hope to get that up to you sometime today.

SC Okay, tell them to remember the Kilo - India, Sierra - Sierra mode.

CC Roger.

END OF TAPE

SL-II MC-137/1

Time: 09:43 a.m. CDT, 147:14:43 GMT

5/27/73

CC Joe, in answer to your question about the momentum. We think we're in good shape, however, we're not absolutely sure. We want to watch it a while. We have not enabled star tracker updates. We're going to hold that a while. You can expect those sat finds for a while, until we get squared away. We'd like to look at it for, perhaps another rev, here.

SPT Okay. It just occurred to me, you were going to lose the Star before too long, due to occultation.

CC Roger. We should acquire next time. Another little bit of information for you, Joe, in regard to the ATM experiments. We've reconfigured, you know, in going through our ground checkout - the ATM - the canister thermally, and ATM experiments has been configured according to pages Alfa 1 and Alfa 2 of your ATM Experiment Checklist and Data Book. Except that S082-B main power has not been commanded on. And processor rework in the checklist, we've boxed ourselves in, such that we can't command it on from the ground. So, next time you go by there, we're requesting that you configure the XUV split main power on.

SPT 82-B main power on, okay.

CC And, for your info also, we have the S055 pressure gage powered on and we're going to command it off at about ah - Well, it should be already commanded off.

SPT How does the pressure look?

CC Pressure looked good, Joe.

PAO Skylab Control, Houston; now 1 hour 47 minutes Greenwich mean time. The crew made a real-time decision to turn on the television. This has been fed into Goldstone and Texas. It's not being received in the mission control center. That was Pete Conrad who made that call. The television, apparently placed into the dome pointing down over the orbital workshop area where all three crewmembers presently appear to be working. Conrad reported that he was doing the wardrobe activation portion of his checklist. We'll stand by and continue to monitor conversations as they develop.

PAO Skylab Control, Houston; 14 hours 49 minutes Greenwich mean time. A followon to Conrad's conversation with Henry Hartsfield, we do expect the television to be on and active on each stateside pass during the day.

CC CDR, Houston. Is it convenient for you to answer a couple of question about the undervolt we had, yesterday?

CDR Say again, Hank.

CC Roger. If you've got a minute, you might answer a couple of questions about the undervolt we had yesterday in the CSM.

SL-II MC-137/2

Time: 09:43 a.m. CDT, 147:14:43 GMT

5/27/73

CDR Yes, sir. Go ahead.

CC Okay. It looked very much like, after we looked at the data, that the currents that we saw, the loads were very much like the radiator heaters and we were wondering if you could recall the position of the ECS radiator heater switches, primary and secondary on panel 2, at the time the problem occurred?

CDR Yes, sir. We checked those and they were both off.

CC Okay. And just to rule out anything else, we'd like to confirm that there were no switches or circuit breakers being reconfigured at about the time the problem occurred, other than normal checklist items?

CDR No, sir. The best, as I can remember, we put it pretty well in the quiescent configuration. And ah - we di - we were - I forget what we were doing, we weren't doing any configuration and all of a sudden bam bo, we got that may day undervolt, and - I'll tell you, whatever - If it wasn't short, what ever it was, it burned itself out without blowing a breaker, because after a while, when we were turning heaters off, and everything, it was just went away.

CC Roger. Copy. Thank you.

CDR Hope it wasn't the ignition switch to the SPS.

CC Okay. Our data down here, Pete, showed that the condition for the undervolt, in other words, the high currents lasted approximately 5 minutes.

CDR That's correct.

SC Skylab, Houston. We're about 30 seconds from LOS. We'll be acquiring you at Madrid at 58. And we plan to dump the data recorder, there.

SC Okay. And we'll turn the TV off.

PAO Skylab Control, Houston; at 14 hours 53 minutes Greenwich mean time. We've just had loss of signal. Next station to acquire, Madrid, in approximately 4 minutes.

END OF TAPE

SL-II MC-138/1

Time: 09:56 a.m. CDT, 147:14:56 GMT
5/27/73

PAO Skylab Control, Houston; 14 hours 58
minutes Greenwich mean time. Under acquisition at this time
through Madrid.

CC

Coming through Madrid for 8-1/2 minutes.

SC

you look on page 2-83 of the checklist.

CC

Okay, go.

SC

About two-thirds of the way down my column is
a recent change to where it says water dump pressure indicator
less than 0.2.

CC

Roger.

SC

We can't get that. Now when I dump - When
we dumped the condensate tank into the waste tank last night, the
lowest we got within a reasonable amount of time was 1.0, and I
let it run almost 5 minutes here and got down to 0.75. So I'm
pressing on. You might post the water guys and see what
they think of that.

CC

Okay. Copy.

SC

Houston, SPT.

CC

Go ahead.

SPT

Okay. When I was measuring the iodine

in water tank 1, it ran very close to zero. I would estimate
from the gage between a half and one part per million. But
as you know, it's very difficult to read when it's that low.
I gave it 40 units which is the amount required to bring it
to the - to add four parts per million to a whole tank.
And remind us to sample it again at some later time after
it's had a chance to mix. I don't know whether the heat may
have affected the iodine or the reagent or - or both. Over.

CC

Roger. Copy.

PAO

Skylab Control, Houston; 15 hours
Greenwich mean time. We've been listening to Paul Weitz - -

CC

We're going to clear the ACS alert

from the ground that you got there so we can see a CMG cage
if it occurs again. No action required on your part.

SC

Okay.

PAO

Paul Weitz presently in the water
system activation. Skylab now continuing on its pass over
Madrid. Some 5 minutes remaining on this pass.

PAO

Skylab Control, Houston, at 15 hours
7 minutes Greenwich mean time. We're out of acquisition
range now with Madrid. The next station to acquire will be
Honeysuckle in approximately 35 minutes. This is Skylab Control,
Houston.

END OF TAPE

SL-II MCL39/1

Time: 10:42 a.m. CDT, 147:15:42 GMT

5/27/73

PAO Skylab Control, Houston; at 15 hours 42 minutes Greenwich mean time. Less than 1 minute away now from acquisition with Skylab through Honeysuckle. We now show an orbit of 239.8 nautical miles by 234.8 nautical miles. Skylab traveling at a velocity of 25094 feet per second. We'll stand by now and wait for the callup from CAP COM, Henry Hartsfield, in the Mission Control Center.

CC Skylab, Houston through Honeysuckle for 6 minutes.

SC Roger, Houston.

CC CDR, are you in the command module now?

SC No, sir. I'm down in the wardroom.

CC Okay. - -

SC What you need?

CC Well, we got a couple of things we'd like to get done up there, if it's convenient for you to take a break.

SC Yeah, I'm on my way. I'll be there in a flash.

SC Houston, SPT.

CC Go ahead.

SC Roger. In activating the fecal driers, the checklist says to close the circuit breakers. Now, it was my impression we weren't going to use the heaters. Am I right or wrong?

CC That's correct, Joe.

SC I should leave the circuit breakers open. Right?

CC That's okay, Joe. Just leave them open.

SC Okay.

SC The CDR is in the command module, and I just turned on the SO-82B main power.

CC Roger. Thank you, sir.

CC Okay, we've been have a little command problem with - in the command module, so over on panel 3, the command reset switch, we'd like for you to verify that it is in normal. And after that we'd like for you to, if it is, take it to off for 3 seconds and then back to normal.

SC Okay, it was in normal. I put it off for 3 seconds. It's back in normal.

CC Roger. Thank you, sir. And the next item is that we think we've got a pretty good handle on what the momentum is doing. We're - what we're trying to watch, Pete, is to see if the computer is aware of the out of plane and is taking it out. It looks like it is but we're not sure it's working absolutely correctly yet. In order to verify

SL-II MC139/2

Time: 10:42 a.m. CDT, 147:15:42 GMT
5/27/73

we would like for you to bring up the optics and see if you can find us a couple of stars. And give us the ID and shaft and trunnion off the (garble), just use the telescope. And the time to the nearest minute. And that way we could make sure that the computer's doing the right thing.

SC Okay. I'll see what I can do.

CC And you got 13 minutes of night left,

Pete.

CC Skylab, Houston, for the SPT.

SC I'm getting your stars right now, Hank.

SC Hey, Hank, CDR.

CC Go ahead.

SC But sometime today, we'll tag up on B channel

or whatever we're suppose to be recording on for the medics. One of the things that we're going to have to straighten out is how much water we drank yesterday. And seeing that we were all drinking out of the same gun and everything, we've - I think we've mentioned some numbers on that but I'd like to refine them. If we didn't send you numbers, would you let us know so that we go ahead and tag up on that? I'm gonna try and bring all that stuff up to date tonight in the Evening Report some time.

CC Okay. Copy. And we're about LOS
now. Hawaii is coming up at 04.

SC Okay. See you then.

PAO Skylab Control, Houston; at 15 hours
15 minutes Greenwich mean time. We've had loss of signal over Honeysuckle. The next station to acquire will be Hawaii in approximately 14 minutes.

END OF TAPE

SL-II MC139/1

Time: 10:42 a.m. CDT, 147:15:42 GMT

5/27/73

PAO Skylab Control, Houston; at 15 hours 42 minutes Greenwich mean time. Less than 1 minute away now from acquisition with Skylab through Honeysuckle. We now show an orbit of 239.8 nautical miles by 234.8 nautical miles. Skylab traveling at a velocity of 25094 feet per second. We'll stand by now and wait for the callup from CAP COM, Henry Hartsfield, in the Mission Control Center.

CC Skylab, Houston through Honeysuckle for 6 minutes.

SC Roger, Houston.

CC CDR, are you in the command module now?

SC No, sir. I'm down in the wardroom.

CC Okay. - -

SC What you need?

CC Well, we got a couple of things we'd like to get done up there, if it's convenient for you to take a break.

SC Yeah, I'm on my way. I'll be there in a flash.

SC Houston, SPT.

CC Go ahead.

SC Roger. In activating the fecal driers, the checklist says to close the circuit breakers. Now, it was my impression we weren't going to use the heaters. Am I right or wrong?

CC That's correct, Joe.

SC I should leave the circuit breakers open. Right?

CC That's okay, Joe. Just leave them open.

SC Okay.

SC The CDR is in the command module, and I just turned on the SO-82B main power.

CC Roger. Thank you, sir.

CC Okay, we've been have a little command problem with - in the command module, so over on panel 3, the command reset switch, we'd like for you to verify that it is in normal. And after that we'd like for you to, if it is, take it to off for 3 seconds and then back to normal.

SC Okay, it was in normal. I put it off for 3 seconds. It's back in normal.

CC Roger. Thank you, sir. And the next item is that we think we've got a pretty good handle on what the momentum is doing. We're - what we're trying to watch, Pete, is to see if the computer is aware of the out of plane and is taking it out. It looks like it is but we're not sure it's working absolutely correctly yet. In order to verify

SL-II MC-140/1

Time: 11:01 a.m. CDT, 147:16:01 GMT

5/27/73

PAO Skylab Control, Houston; at 16 hours 2 minutes Greenwich mean time. About 2-1/2 minutes away now from acquisition over Hawaii. There is a possibility that the - during the next stateside pass the television from the orbital workshop will be transmitted live. In any case, following that stateside pass, we would expect a taped playback of the earlier television transmission. We're about 2 minutes away now from Hawaii. We'll stand by and continue to monitor.

SPT - - 5.2, trunnion 31.9, the time 15:54. Nunki shaft 76.8, trunnion 20.1, the time 15:56 and Peacock, I wasn't too sure of this one because it was getting daytime. Shaft 302.9, trunnion 26.8, time 15:58.

CC Good work, Joe. Thank you a lot.

CC And Joe, while we got you there, we would like ah - Have you activated the film vault yet?

SPT Negative.

CC Okay. We'd like to get some temperatures there if we could, so we can get evaluation of the condition of the film. We'd like for you to use a digital thermometer, which is presently located in W749 Bravo and Alfa. Those two drawers - The probes are in one drawer and the (garble) in the other. And ah - like you to take some measurements in film drawers Delta and Juliet, and on the walls if you have time.

SPT Okay. Delta, Juliet.

CC And ah - we would like for you also to record the times that you take these measurements. There's also a pad, either there or on the way, concerning taking some temperature measurements around the food lockers and we also need times that you read the thermometer on that.

SPT Roger.

CDR Hey, Houston. The biggest thing I can notice is the grid floor is beginning to cool compared to yesterday. Some of those other bigger lockers are bigger heat sources, but everything generally seems cooler in there, although still reading 100 degrees off - scale high on the OWS test gage.

CC Roger. Copy. And ah - This agreed with our telemetry. We stowed - All the things we had off-scale are starting to come on-scale now and we're showing some of the grid work getting down to around 105, or so.

PLT Henry, as Pete mentioned this morning, it's hot over by water tank 1 on that side of the scientific airlock. And, just for information, there's a lot of the metal to metal fittings don't fit too well at 130 degrees, like they did at 70. Had a pretty tough time getting the wardroom hose on water tank 1, which is still hotter than a 2-dollar pistol, but some of the snaps has been hard to work.

SL-II MC-140/2

Time: 11:01 a.m. CDT, 147:16:01 GMT
5/27/73

CC Roger. Copy.
CDR Yep. I presume that those water tanks are going to be about the longest thing in the spacecraft to cool down, right?
CC Roger. We probably think so, but that may at least keep us from cycling the heaters on for a while.
CDR Yeah. And the plus Z SAL is almost cold.
CC Roger. Our telemeters show this colder than the minus Z.
CDR Well, at least you know it works right around that area.
CC Roger.
SC You may also be interested to know, Hank, that, I don't think any of us have found a problem in mobility or stability at any task we've had to do yet.
CC Hey, that's beautiful.
CC We never did get a report yesterday. Did you see anything wrong with that dome hatch? This is kind of going back a pace, you know. We had a vent leak there or something. Did you notice anything abnormal with it?
SC No, nothing other than, - I looked it over fairly carefully. It looked completely normal. All forces on opening it appeared to be normal. The only thing was there was some debris on the inside of the screen. But it did appear to all be on the screens, not on the valve.
CC Roger. Copy. Was the workshop fairly clean, or was there a lot of things floating around in there when you opened her up?
SC We got a fairly good collection, but I think for a vehicle, a total combined vehicle of this volume, I think it's pretty darn clean.
SC Tell them about your - -
SC Yes. My biggest prize so far, is about a 6-inch long drill bit. It's about 3/16, I guess, found that. There's a fair amount of stuff in that ah - oh what's that one valve, that panel 403, that 403 valve in the dome of the airlock had about an inch and a half of stuff in the bottom of the debris collector in it.
CC Roger. Copy.
SC Still there, Henry?
CC That's affirmative.
SC CDR has completed testing all the fire sensors and the bad one we mentioned yesterday, we put back on the line just to see what would happen.
SC And presently in the process of bringing the SOP/SOMAs to bring you up to date on him. The PLT is about halfway down page 91.
CC Roger. Copy.

SL-11 MC-140/3

Time: 11:01 a.m. CDT, 147:16:01 GMT
5/27/73

CC Did the fire sensor appear to be normal now?
SC Well, it hasn't gone off, yet, we'll let you
know.

CC PLT, Houston. If you do come around and
want to change the sensor out, how about trying to changing
the sensitivity on it before you do that, see if that'll do
the trick. And also, as a reminder, it looks like we're
going to have live TV stateside, and Goldstone will be coming
up at 15.

CC If you want to adjust the sensitivity, the
SWS Systems Checklist, page 2-32, has the procedure.

SC Okay. We'll try that first.

CC Okay. And we're about 30 seconds from
LOS; Goldstone at 15.

SC All right.

PAO Skylab Control, Houston; at 16 hours
12 minutes Greenwich mean time. We show acquisition with
Goldstone at approximately 3 minutes. Still no definite
confirmation at this point from network as to our status
on the line for live television. We'll stand by, however.

PAO Two minutes away, now, from acquisition
with Goldstone. Still no definite confirmation as to whether
or not we will receive live television. During the Goldstone
pass, however, Goldstone is configured to do so. And will
in the absence of live television, if that turns out to be
the case, record the pass. We're at 16 hours 13 minutes
Greenwich mean time. This is Skylab Control, Houston.

END OF TAPE

SL-II MC141/1

Time: 11:13 a.m. CDT, 147:16:13 GMT
5/27/73

PAO The network advises that we do have a television line. We're some 28 seconds away now from predicted time of acquisition.

CC Skylab, Houston through Goldstone for 7 minutes and we've got a picture. Goldstone for 7 minutes and we've got a picture.

CC We've got a good view of all the food lockers now, looking straight down to the trash airlock.

SC Okay; here comes the CDR just coming through the dome hatch now on his way. I hope he doesn't crash.

SC You'll notice he blew that one, although we must admit that he hasn't been practicing with his in one hand.

CC Roger.

SC Wow.

SC If you can't be good be careful.

SC We ain't had much problem adapting.

CC Roger.

CC Beautiful.

SC Hey, I'll tell you, there is no problem adapting. And you can go anywhere you want. You may get out of control a little bit enroute, but you don't bang into anything hard. And if you just take your time pushing off you can go anywhere you want in the vehicle. Just super fast.

CC You make it look easy, Pete.

CC Skylab, Houston. We'd like to get a question answered in regard to the condensate system. We show the dewpoint still climbing up. And we want to make sure that you did get that system activated.

SC Hank, we showed it went down over the night. Let me go back up there and take a quick peek. We showed it went from 56 dewpoint down to 53. Let me go look.

CC Okay. We just want to make sure that you have the two valves from the heat exchangers opened up to the condensate tank. We show that it is around 54 now.

SC 54 is what we received.

SC Okay, it is 54. It was 48 this morning, Paul tells me. And you want us to verify that we got both heat exchanger A's open?

CC That's affirmative. Now we noticed it was down this morning, too, and we started going up erasing doubts in our mind as whether the system was operating properly or not.

SC Well, it looks like it's taking water out, Hank. It was - DELTA-V on the condensate tank was about 3 this morning. It's 2.8 now, indicating that it is filling.

SL-II MCI41/2

Time: 11:13 a.m. CDT, 147:16:13 GMT

5/27/73

CC Roger. Thank you.
SC Now say again which valves you wanted
me to check.

CC Okay, on panel 230, the heat exchanger
A, the water valve going to the condensate tank. And it's
the same on panel 232.

CC Skylab, Houston. We're about 30 seconds
from LOS. We'll be picking you up over Bermuda at 26.

SC Okay, Hank. All those valves are in
the proper position. May be that just we're up and about.
Do you suppose that's it?

CC That's probably it.

SC Well, keep an eye on it for us. Your
measurement obviously tagged up with ours, and we noticed it
this morning. It was 48, but you're right; it's back up.

SC We may be putting out a little bit working
down there in the workshop, but it's still probably 105 or
so. All three of us have been down there all morning.

CC Roger. Copy.

SC But it's not unpleasant.

END OF TAPE

SL-II MC142/1

Time: 11:24 CDT, 147:16:25 GMT

5/27/73

CC
7 minutes.

Skylab, Houston through Bermuda for

PAO This is Skylab Control, Houston. We're standing by for a feed of the first pass through Goldstone. That's a television feed of the first pass through Goldstone. We're standing by for that transmission.

CC - - It should adjust new Z on the next time around with the dump and we should have a normal momentum disp rev after next.

SC Okay, can we inhibit star tracker outer gimbal update?

CC That is inhibited now, Joe.

SC I mean ENABLE, but I said the other.

CC Negative. We'd like to leave it inhibited for the time being.

SC Okay.

CC We'd like to let it get in plane and get all squared away before we ENABLE, Joe.

SPT Roger.

PAO Skylab Control, Houston; at 16 hours 29 minutes Greenwich mean time. We're still carrying the audio live over our pass of Bermuda. The playback that you see on the television monitors is from the previous pass or the first time the television was turned on by commander Pete Conrad over Goldstone. There is no audio accompanying this television tape.

SC We got it on in the dome plate down in the OWS because everybody is working down there.

CC Roger. Copy. We'll record.

PAO Skylab Control, Houston. We have picked up audio from our first Goldstone pass and, we'll play that with the picture that you are now seeing.

SC This OWS heat exchanger fans - we'd like to verify that you did complete steps 3 and 4 on page 2-62.

SC You caught me in transient, Henry. What do you want.

CC Okay, we lost contact while we were talking about the VCS duct installation. We'd like to verify that you've completed steps 3 and 4 on page 2-62.

SC It's affirmative but that was done last night when we installed the duct. And I just got to the TCS activation this morning. So, it - both those steps are complete.

CC Okay. Well, last night we had the fans in the on position and today we wanted to configure them to run through the workshop. We'd also like to get bed 2 bakeout initiated if you haven't already started that.

SC Oh, I meant to do that and forgot. I'll go up and do it right now. You can consider it started in 5 minutes.

SL-II MC142/2
Time: 11:24 CDT, 147:16:25 GMT
5/27/73

CC

Okay.

END OF TAPE

SL-II MC-143/1

Time: 11:34 CDT, 147:16:34 GMT

5/27/73

SC - Room activation.

CC Okay, Pete. Could you give us a quick rundown, if it's convenient on where you are in the time line now?

SC Roger. I am at wardroom activation.

SC And the PLT just finished hooking up the water tank 7 and we are just moving into the waste management compartment. Right now I am starting bed 2 bakeout initiation.

CC Roger. Copy.

SC Okay, the SPT is doing the waste management compartment activation, page 2-81. And, Hank, I like to know how the star acquisition data look to you. And also whether you guys are looking around for a nut for us to put the cover back - the pyro cover back on the probe. What we'd like to do as soon as we get a free hour or so is to attempt to engage the probe in the drogue in a more or less normal way. So that we'll have confidence we can do it when we deactivate.

CC Okay, To let let you know what's going on down here. Rusty is working up a procedure for some of the fellows on troubleshooting that probe. And, we hope to get that up to you some time today.

SC Okay. Tell them to remember the Kilo-India, Sierra-Sierra mode.

CC Roger.

CC Joe, want to ask you a question about the momentum. We think we are in good shape. However we're not absolutely sure. We want to watch it awhile. We have not enabled a star tracker update. We're going to hold that awhile. You can expect those SAS fairings for a while until we get squared away. We'd like to look at it for perhaps another rev here.

SC Okay. It just occurred to me that you're going to lose the star before too long due to occultation.

CC Roger. We should acquire next time. And another little bit of information - -

CC Skylab, for the PLT.

SC Yeah.

CC We'd like to know which purge you were working on then, and whether there was a water heater or chiller, and how long the purge had been going.

SC You mean when the water dump pressure was slow coming down? What are you talking about?

CC Roger. Are you doing a purge now? Or, were you doing a purge?

SC Yeah. I'm in the process of doing a dump through the wardroom dumps for the checklist right now and activating the trash box.

SL-II MC-143/2

Time: 11:34 a.m. CDT, 147:16:34 GMT
5/27/73

CC Roger. We'd like to terminate that
Immediately Paul.

SC Okay.

SC Why, Hank? What's it doing?

CC Okay. Apparently you didn't read me before. We see the waste tank pressure coming up, and it's getting above the triple point of water. If we continue we're taking a chance of freezing up the probe. The overboard - -

SC - can't understand and you're right, we didn't read you before. We heard a couple of very broken transmissions went back to you and you never answered. I guess we hit a bad spot again.

CC Roger. We're taking a chance that the screens might freeze up. I would still like to know which purge you were on when we stopped you there. Was it the chiller or the water heater?

SC Well, I'll have to go back and hunt up. No, it was the water heater, because I'd already unplugged the dump line from the chiller.

CC Okay. Can you give us an estimate of how long that purge had been going?

SC Well, I tell you, I fouled up some place along the line, Dad. The dump valves have been open for about half an hour, I think.

CC Roger. Copy.

SC Because, I swear I got it checked off my checklist and I swore I did it after we - do you purge the line from water tank? 7 or whatever the heck it was going on there. And I came back to it to open it for the heater dump and it was still open.

CC Roger. That explains, then, the rise in pressure down there.

SC Yeah.

PAO Skylab Control, Houston; 16 hours 42 minutes Greenwich mean time. Standing by for a further television transmission on that first pass.

CC Skylab, Houston. We're about 1 minute from LOS. We have a very low pass at Ascension at 46. If we're unable to contact you there we'll be seeing you at Honeysuckle at 20. And if you can do it real quickly here, we'd like to get an update on where you are on the checklist.

SC SPT is finishing up the SPT/SOMAs.

CC Copy.

SC CDR is finishing up the SOP/SOMAs.

CC Roger.

CC Skylab, Houston through Ascension for two minutes.

SL-II MC-143/3

Time: 11:34 a.m. CDT, 147:16:34 GMT
5/27/73

SC
CC
Honeysuckle at 20.

Roger, Houston.
Skylab, Houston. 30 seconds LOS.

SC
PAO
the followon picture of that first pass over the States with
Skylab on television.

Okay.
Skylab Control, Houston; now receiving

END OF TAPE

SL-II MC144/1

Time: 11:48 CDT, 147:16:48 GMT

5/27/73

PAO Skylab Control, Houston; at 17 hours Greenwich mean time. During our television playback transmissions where we carried the audio, we took our air-ground down for a period of time during the Canary and Ascension pass. And we will play that back for you now.

CC Skylab, Houston. We're about 1 minute from LOS. We'll be coming up on Canaries at 35, and we plan to dump the recorder there.

SC Roger.

CC Skylab, Houston through Canaries for 9 minutes.

SC Roger, Hank. We're going to be moving around quite a bit now. We may not acknowledge you.

CC Okay. No problem.

CC Skylab, Houston for the PLT. We're seeing the pressure in the waste tank coming up, and it's getting up the cripple point of water. We'd like to terminate the water purge so we don't wind up freezing up those probes down there.

SC Did you call, Hank?

CC Roger. We're monitoring the pressure in the waste tank coming up, Paul, and it's going up above the cripple point of water. We'd like to terminate the water purge, if you're doing that now, so that we don't take a chance of freezing the probes up.

PAO Skylab Control, Houston; 17 hours 1 minute Greenwich mean time. We're now coming up via television with our last piece of tape from the first stateside pass.

END OF TAPE

SL-II MC145/1

Time: 12:01 p.m. CDT, 147:17:01 GMT
5/27/73

CC We're talking about the VCS duct installation. We'd like to verify that you've completed steps 3 and 4 on page 2-62.

SC That's affirmative. But that was done last night when we installed the duct. And I just got to the TCS activation this morning. So, both those steps are complete.

CC The bed 2 bakeout initiated, if you haven't already started that.

SC Oh, I meant to do that.

CC We'll leave that television rigged in the dome and as we work today we'll leave it in a few other places. And, perhaps that'll replace the press conference or something. You ought to get enough out of that and we can keep working.

CC Roger.

SC We've just put a couple of triple flip-pers on here for you, Henry. So, you ought to have some good stuff.

CC Okay. Good show.

SC Okay. The CDR is at wardroom activation.

CC Okay, Pete. Could you give us a quick run down, if it is convenient on where you are on the time line, now?

CDR Rog. I'm at wardroom activation.

SC And, the PLT just finished hooking up the water tank 7 and we're just moving into the waste management

CC Roger. Copy.

SC Okay. The SPT is still in the waste management compartment on page 2-81. And, Hank, I'd like to know how the star acquisition looks to you and also whether you guys are looking around for a nut for us to put the cover of that thing-pyro cover back on the probe. What we'd like to do if we get a free hour or so, is to attempt to engage the probe in the drogue in a more or less normal way, so that we'll have confidence we we can do it when we deactivate.

CC Okay. To let you know what's going on down here. Rusty's working up a procedure for some of the fellows on troubleshooting that probe. And we hope to get that up to you some time today.

SC Okay. Tell them to remember the Kilo-India, Sierra-Sierra mode.

CC Roger.

PAO Skylab Control, Houston; the television we're now looking at is a playback of the first televised stateside pass by the crew aboard Skylab.

SL-II MC-145,2

Time: 12:01 noon CDT, 147:17:01 GMT

5/27/73

CC Joe, I want to ask you a question about the momentum. We - we think we're in good shape. However, we're not absolutely sure. We want to watch it a while. We have not been able to get the star track update. We're going to hold that awhile. You can expect those SAS fairings for a while until we get squared away. We'd like to look at it for, perhaps another rev.

SC Okay. It occurred to me you were going to lose the star before (garble) because of occultation.

CC Roger. We should acquire next time. And, another little bit of information, before you go, in regard to the ATM experiment. We've reconfigured, you know in going through our ground checkout of the ATM. The canister (garble) and the ATM experiment configured Alfa 1 and Alfa 2 of your ATM Experiment Checklist and Data Book. Except that S082-B main power has not been commanded on. And in the process of rework in the checklist, we've boxed ourselves in such that we can't command it on from the ground. So next time you go by there, we're requesting that you configure the XUV slit main power on.

SC 82-B main power on, okay.

CC And for your info, also, we have the S055 pressure gage powered on, and we're going to command it off at about - well, it should all ready be command off.

SC How does the pressure look?

CC Pressure looked good, Joe.

PAO Skylab Control, Houston; at 17 hours 13 minutes Greenwich mean time. We're approximately 7 minutes away now from acquisition through Honeysuckle. What you have been seeing and hearing over the past number of minutes has been the television playback of the first television transmission of the stateside pass, showing the crew working in the orbital workshop. We will pick up again live over Carnarvon, when we acquire and that's some 6 minutes and 30 minutes - 6 minutes and 30 seconds from this time.

END OF TAPE

SL-11 MC-146/1

Time: 12:18 p.m. CDT, 147:17:18 GMT
5/27/73

PAO Skylab Control, Houston; 17 hours 19 minutes Greenwich mean time. Coming up now on Honeysuckle, standing by for the callup from CAP COM, Henry Hartsfield.

CC Skylab, Houston through Honeysuckle for 8 minutes.

SC Say, Houston. I've got a question for you.

CC Go ahead.

SC What kind of light configuration do you want in the OWS. It's sort of - I'm not sure I understand all of it on B-9.

CC Stand by one.

SC While you're working on that, Henry, how's the waste tank pressure look?

CC Okay. Let's us check that and while we've got you, Paul, I'd like to find out exactly which valve it was that you left on.

SC The dump valve and the water in the ward-room table pedestal.

CC Okay. And, we'd also like to know how far along along with the wardroom water heater dump had you gone, when we caught it - or when we stopped you?

SC It was essentially done, I guess, - I guess, 10 to 12 minutes into it.

CC Okay.

PAO Skylab Control, Houston. Pete Conrad, working with the lighting configuration now on his checklist.

CC PLT, Houston. You have a GO to continue with the dump. We show the waste pressure down to 0.05. You can monitor if you'd like, I think, on panel 800; 0.09 is the max we want.

SC Okay, Houston. We've got another question for you.

CC Go ahead.

SC After we complete that, how soon can we use the trash airlock?

CC Anytime you want to, Pete.

SC Okay. Because we've got some stuff piling up here and we start - like to clean out.

CC CDR, Houston. In answer to your question concerning the light; and the idea there is to turn on all the lights and then use the individual lights or - individual switches on each light to either turn it on - high, low, or off.

SC What you're saying is, you want us to find out what the minimum light configuration we can get away with. And set them by turning on all of the lighting switches on 616 and go around and check the other lights, right?

SL-II MC-146/2

Time: 12:18 p.m. CDT, 147:17:18 GMT

5/27/73

CC That is affirmative. You've got it.
SC Okay. We're happy with what we've got
right now. How about taking a look at how much that is and
see if we're drawing too much for you.

CC Okay. Will do.

SC And Hank, that brings me to condensate
holding tank relocation, which is, in fact, complete. So,
I will now step ahead to 15-10 condensate holding tank
evacuation.

CC Roger. Copy.

SC So, that looks like I'm running about 2 hours and
20 minutes behind. However, things go so nice and comfortably
up here, we'll probably press on today, like we did yesterday.

CC Roger. Copy.

SC You all might think about that. We got
good night's sleep last night. We're rested. As long
as we don't get tired we'd like to flog through today and
it may be that we don't get screwed back around in the right
sleep cycle until we get to orbital operation. We've got that
time in K here to regroup. We can knock that out because
we're sort of regrouping as we go. And what I'm shooting
for is to wind up, begin in orbital lock when we're sup-
pose to be getting them, as long as we don't run ourselves
into the ground and I don't think we're running ourselves
into the ground. We're getting good night's sleep and every-
thing. So, how does that sit with you?

CC Sounds pretty good, Pete. But, we'll
think about and we'll get back with you.

SC Okay. We may start getting ahead here,
eventually.

CC Skylab, Houston. We need to get somebody
to the ATM console and get this star tracker power off.

SC The SPT is on his way.

CC Okay. The reason for that is, it's wanderin
about, and we need to stop it.

SC Okay.

CC And Skylab, Houston. When you get to
doing the quiescent panel Delta that we uplinked to you,
we'd like to leave the EPS spec on.

SC EF spec on. Okay. I haven't gotten that
piece of paper yet, maybe Joe has it.

CC Okay. That's general message 0313.

CC Skylab, Houston. We're about 30 seconds
from LOS. We'll be picking up Hawaii at 41.

PAO Skylab Control, Houston; at 17 hours
29 minutes Greenwich mean time. We've had loss of signal

SL-II MC-146/3

Time: 12:18 p.m. CDT, 147:17:18 GMT
5/27/73

through Honeysuckle. The next station to acquire Skylab
is Hawaii, this in approximately 11-1/2 minutes.

END OF TAPE

SI-II MC-147/1

Time: 12:38 a.m. CDT, 147:17:38 GMT
5/27/73

CC Skylab Control, Houston; at 17 hours 39 minutes Greenwich mean time. Less than 2 minutes away now from acquisition with the Skylab orbital assembly over Hawaii. Skylab presently in an orbit of 239.8 nautical miles by 234.2 nautical miles. Meanwhile back crewman analyses of ambient cabin temperatures in the orbital workshop show present readings of slightly over 100 degrees. Probably between 100 and 105 degrees. Projections on these numbers should give us an ambient temperature down to about 100 degrees by the end of today's work day. And it is expected that the temperature will continue to drop, reading between 80 and 90 degrees by the end of tomorrow's workday. We're less than 1 minute away now from acquisition with the crew aboard Skylab. We'll stand by and monitor this Hawaiian pass.

CC Skylab, Houston through Hawaii for 8-1/2 minutes.

SC Roger, Houston. Be advised, we just did your general message 312 CBRM 15 troubleshooting and it did not work. So, we have the rev off and the charger off. Okay?

CC Roger. Copy, and we would like to -- if you haven't already done so put the message 311 B into work. The temperatures in the food logger?

SC Okay. Did that come all the way through? I saw that on the teleprinter and it wasn't all the way out of the teleprinter, and I wasn't sure whether you got the whole message in or not before I pulled it out. Is it all transmitted?

CC Roger. It should be, Pete.
CC We got - got that message up lightly just before LOS. We only got 3 shoves on it. So you might have to slew it out a little.

SC Okay.
PAO Skylab Control, Houston; 17 hours 45 minutes ground elapsed - Greenwich mean time. Some 4 minutes 40 seconds remaining in this pass over Hawaii. Very little conversation between - the crew and the Mission Control Center. We do expect another live television pass coming up over the states. Goldstone acquisition is some 7 minutes away from this time.

CC CDR, Houston.
SC Yes, sir.
CC Got a little clarification on that message 313 if you - is convenient to jot it down.
SC Okay. It came up split.
CC Say again.

SL-II NC147/2

Time: 12:38 a.m. CDT, 147:17:38 GMT
5/27/73

SC It was a split message. One line was out of phase with the other in the middle. It was a little hard to read.

CC You think it's all there, or do we need to send it again?

SC Why don't you just send it again. Everything that's in one of those things and we get in them we get further behind. If not really important - Do you want me to dump that switch configuration right now? Or can I wait for a while?

CC We wanted you to do it at lunch.

SC Why don't you send me the message again because that one's kind of garbled.

CC Okay, that's the best thing. We'll try it again, Pete.

SC It looked like all you wanted was just 3-12 and leave the computer powered up. Was that right? In standby.

CC That's roger. Wanted to leave those two circuit breakers closed and leave the EP spec on.

SC Okay, I can remember that. You don't have to send a message. And I'll do page S3-12 and leave those out.

CC That's affirmative and just a reminder that B charge is due to terminate at 20:00.

SC Okay, 2 hours and 10 minutes from now, huh?

CC Roger.

CC We're about 30 seconds from LOS. Be picking you up at Goldstone at 02.

SC Okay.

PAO Skylab Control, Houston; 17 hours and 15 minutes Greenwich mean time. We're out of acquisition now with Hawaii. The next station to acquire, Goldstone, in some 2 minutes 10 seconds from this time on this stateside pass. We do not expect to receive television live through Goldstone or Texas. However, we do expect to receive television live through MILA.

END OF TAPE

SL-11 MC-148/1

Time: 12:51 p.m. CDT, 147:17:51 GMT
5/27/73

CC Skylab, Houston, through Goldstone,
6 minutes.

CC Skylab, Houston through Goldstone,
5 minutes now.

SC Okay.

FAO Skylab Control, Houston.; 17 hours
55 minutes Greenwich mean time. We presently have acquisition
with Skylab through Goldstone. A couple of calls have been
made to the crew by CAP COM, Henry Hartsfield. Not yet receiv-
ing a response. However, we are looking at live telemetry
data in the Mission Control Center. We'll stand by, continuing
to monitor. This is Skylab Control, Houston.

CC Skylab, Houston. Ee're about 1 minute
from LOS. We'll be picking you up at Bermuda at 02. And
before we sign off here, I'd like to get an update on the
SPT and PLT.

SC Okay, Houston. At this point the
emphasis in the SPT's activities is on the second letter and
in the PLT on the first letter (garble).

CC Roger. We copy that and we've got
live TV scheduled for MILA (laughter).

SC Well, you should have let us know. We
would have tried to hold back. The SPT is on the midst of
film vault activation, and the PLT as you may have guessed,
hasn't quite made it through urine system activation yet.

CC Roger. Understand.

END OF TAPE

SL-II MC149/1

Time: 13:00 p.m. CDT, 147:18:00 GMT

5/27/73

CC Skylab, Houston through Bermuda for
10 minutes and we'll be dumping the data recorder here.
SC Okay. We're taking our lunch break
now, Hank.
CC Roger.
CC And we're set up to get about 3 minutes
of TV through MILA, which should start at about 04.
PAO Skylab Control, Houston, 18 hours
4 minutes Greenwich mean time. Standing by now for a possible
television transmission.
CC Hey, we're getting the picture now.
Looks good. Hey, we're getting the picture now. Looks good.
CC We're getting a great picture down
here, guys. You make it look easy.
SC Chizam.
SC Hey, Hank. Whos's the temperatures
looking? Are they still coming down on the outside of the
vehicle?
CC That's affirmative, Pete. And we just
lost our TV through MILA. It was a pretty short pass. That
was a good show. Looks like the bird's cooling down real
good.
SC If we've got time this afternoon, we'll
set the TV up at some other location down below or something
where we're working, and catch that any time you want.
CC Okay.
CC Skylab, Houston. We're about 1 minute
from LOS. We'll be coming up on a real low pass at Carnarvon
at 16. If we don't get you there, , we'll get you at Ascension
at 19.
SC Roger - doger.
PAO Skylab Control, Houston; at 18 hours
13 minutes Greenwich mean time. We've had loss of signal
with Bermuda. The next station to acquire is Canary. In -
in approximately 2 minutes 40 seconds. There will be a very
low elevation on this pass. Very likely that we do not have
any conversations with the crew aboard Skylab. However, the
next station to acquire is Ascension some 5 minutes and 40
seconds from this time. We'll stand by and keep the line
up and continue to monitor. This is Skylab Control, Houston.

END OF TAPE

SL-MC150/1

Time: 13:14 CDT, 147:18:14 GMT

5/27/73

CC Skylab, Houston, through Ascension for
10-1/2 minutes.

SC Roger.

SC Hey Hank, CDR.

CC Go ahead.

SC How nervous are you about getting that
food temp thing? You want us to put somebody on that right
after lunch?

CC Roger, Pete. We'd like to get that -
we'd like to get a hack at the cool down on that food to see if
we can get an estimate of how hot it was., or at least how
fast it's cooling off.

SC Okay. Well, we'll put the SPT on it
after lunch.

CC Okay.

SC Okay. So he's in a hold on activating
the film vault right at the moment.

SC Hank, one other thing, I think we're
sort of bogging down here again a little bit. I think what
we want to accomplish today is to get the complete water
system activated. Waste management system and as much of
that sort of stuff as we can to get it livable down there. This
eating in the command module and everything really slows us
down.

CC We concur with that, Pete.

CC And Skylab, Houston. So you can be think-
ing about it, right now we're scheduling the EVA status
report for 01:50, and the medical conference for 02:20.

SC All right.

END OF TAPE

SL-II MC-151/1
Time: 13:14 CDT 147:18:14 GMT
5/27/73

CC Skylab Control, Houston; 18 hours 24
minutes Greenwich mean time. Approximately 6 minutes remaining
during this pass over Ascension.

CC Skylab, Houston. One minute until LOS.
Canarvon at 52.

CDR Acquired.
CC Skylab Control, Houston; 18 hours 30
minutes Greenwich mean time. We've - Skylab has passed out of
acquisition range with Ascension. The next station to acquire,
Carnarvon at some 22 minutes from this time, meanwhile we wanted
to reaffirm the decision not to hold a news conference with the
Skylab crew today. I repeat, a news conference will not be
held with the Skylab crew today,; however, television may -
may be expected to continue during the stateside passes
today. At 18 hours 31 minutes Greenwich mean time, this is
Skylab Control, Houston.

END OF TAPE

SL-II MC152/1

Time: 13:50 CDT, 147:18:50 GMT
5/27/73

PAO Skylab Control, Houston, at 18 hours 50 minutes Greenwich mean time. We're less than 2 minutes away now from reacquiring the Skylab orbital assembly on the 189th revolution. This pass over Carnarvon. We presently show an orbit of 239.8 nautical miles by 234.2 nautical miles for Skylab, and our best hack as to where the Skylab crew was in the activation process when the Control Center last had contact over Ascension placed commander Pete Conrad right on schedule ready to start his lunch break. The crew was having lunch when we last had contact with them. Scientist Pilot, Joe Kerwin, had been involved with the film vault activation. And Pilot, Paul Weitz performing the urine collector activation. Placing both of them about 2 hours behind the scheduled time line. We're less than a minute away now from acquisition. We'll stand by and continue to monitor.

CC Tape recorder, this is the PLT answering the questions that were sent up yesterday on the teleprinter regarding the SEVA. Question 1, on trying to cut the strap, no, I did not cut the strap because I felt we did not have the right tools on board to do it with. The strap went down very tight against the beam fairing. Next question, can you get to the strap under the beams - under the SAS or beam fairing? Let me explain further to you what it is or what it appears to be. There is a section of meteoroid shield which is directly under the beam fairing and this is then bolted through the - what we saw in Huntsville as kind of a standard method on the meteoroid shield. Shield sheet being attached to angle and the angle is then bolted together. And this is one of those joint lines that ran longitudinally the length of the meteoroid shield, parallel to and just outboard of the beam fairing. So it doesn't go under the sas or under the beam fairing. The next question is could I get the two-pronged tool under the strap? Yes, sir, I could. As a matter of fact, we almost left it there because that goes with the next question. I did push in on the beam, got the two-pronged tool between the beams and the strap and then had one devil of a time trying to get it back out. Question 5 is yes, sir, the strap is definitely dug into the beam fairing. What it looks like to me is, it is really wrapped tight right up against it and if there are any protruding bolt heads or bolt threads, they are right down into that beam fairing. It's almost like it was put on there. I really - I almost find it hard to believe it's on there so tight. Number 6 is the specific origin of the strap. We just talked about it, I think. Any more questions, give me a call. Number 7, on observing deflection. I did not observe any; however, the commander, watching out his window, said that the end of the beam fairing, when I first pulled on it using the

SL-II MC152/2

Time: 13:50 CDT, 148:18:50 GMT
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shepherd hook - the estimates deflected about a foot. Now I pulled it toward me. It deflected. I also moved the whole workshop, surprisingly, at which point TACS squirted at us. And I started to move back. And, as a matter of fact, the workshop was pulling at the command module for a short while there. Anyway, any deflection which was put on has gone back out, and there is no permanent deformation. Question number 8; there is no sheet metal attached to this angle strap outboard of the beam fairing. Of course there is underneath. The entire section of meteoroid shield which lay under the beam fairing at launch is still there. And question 9, the last one on whether it was a single or double angle. As best as I remember it, it was where there were double angles back to back. The outer half of it and it was double for the first half of where it wrapped around at the beam fairing at which point the - one of the two angles tore away from the other and it's only single from there on out. That's the end of the summary.

CC Hey, Paul. We caught the whole thing. You just started recording over Carnarvon and that was a pretty good summary.

SC Well, you rascal. I was on tape also. Were the points clear enough, Hank?

CC Roger. It's very clear. In fact, Rusty had just come in and he caught it all, too.

SC Okay.

SC Hey, Hank; CDR.

CC Go ahead.

SC If you and Rusty remember the long crowbar, it was laying down there that somebody sent in that of course we do not have with us. A man that had a crowbar like that could go EVA either out of the command module or down that beam fairing, stick that crowbar under that thing so that he could drive with his feet against the SAS beam and pry it right off of there. But it wrapped around so hard that it's obviously, in effect, those bolts have punctured the SAS skin and, in effect, it's riveted that thing on there. And Paul got that claw under it, but he couldn't provide enough leverage. The claw is so short and the pole was so whippy that he couldn't provide enough leverage to pry it off of there. It was extremely frustrating because the man with the crowbar could have to drive right up there and crowbared that thing right off of it and I'm sure that panel would have flung out.

CC Roger. Copy. Do you think that you could have gotten the cutter around that strap down at the base, or did you try to get around the strap?

SC No. I don't think that cutter would have done it.

SL-II MC152/3

Time: 13:50 CDT, 148:18:50 GMT

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SC I don't either, Hank. I tell you the tool that I wish I'd have had would have been a circular power saw of some kind and just cut the strap away where it comes off the meteoroid shield.

CC Okay, what we - -

SC I'll tell you what's in the back - I'll tell you what's in the back of my mind right now. We have a pry bar in one of these tools, and I'm going to figure out a way to tether an EVA so when we go out and do our thing on day 26, it's worth our while to see if we can't "whinny" around there. Because, - you can hand over hand down the SAS beam. It's sticking out far enough and on one side where the butterfly hinge is, it's clean. So you wouldn't cut your gloves. And I think if you got down there with a pry bar you could pry it loose and then the SAS beam would give you a ride back because it's going to take off and go.

CC Roger, Pete. For your information, we're already working in the water tank trying to see what we can do along those lines. We've looked at the pictures and what we're trying to - we have determined that the tool we have on board will cut that strap. In fact it will cut a strap larger than that. Out on the west coast we're looking to see - on the picture we're trying to determine if there is a place that you can get at the strap with the cutting tool.

SC Well. I'm not really sure that you can. If you look at that picture, you'll find that that strap when it tore, it must have been traveling at high velocity. Maybe it's very soft aluminum because it has almost form-fitted itself right around the right angle of the SAS beam. You know, even though it's not perpendicular to the corner, it's laying diagonally across it, but it's awful flat.

CC Pete, this is Rusty. What's we're try -

SC Go.

CC Yeah. What we're talking about doing. Pete, is not trying to get the strap off the beam but cut it below the beam if you can get the cutter tool around it, that is, get it internal to the tools to the jaws of the cutter. We're looking at doing that from up at the fast ring on the end of the pole. The question is do you think you can get - with the fully open jaws, can you get the angle inside the jaws?

SC Well, the answer to that is down low. I don't think so because what it is and you'll have to look at the drawings, but is there running parallel to the hatch section just a little bit out forward of the SAS beam, was there a seam where meteoroid shield bolted together running longitudinally?

CC Yes, sir. And we've looked at all of those angles in there and all of them can be cut with the tool,

SL-11 MC152/4

Time: 13:50 CDT, 148:18:50 GMT
5/27/73

at least on the ground as far as the mechanical advantage is concerned.

SC Okay. Well, we're going to need a tank because I've sure been thinking about how to get around there and give her a go on day 26. Because I got - when he pulled on the end of the beam down at the bottom end - I - I couldn't see a strap, but that thing just didn't move, but the beam is free. It deflected a good foot. I can see the solar panels accordioning in and out as he was deflecting it. And he applied plenty of force. I almost hauled him right out of the action red. We had the TACS firing back at us so we loaded it up pretty good whenever you figure two (garble) with him jerking on it and the tacs firing the other way.

CC One last question quickly. We're 40 seconds from LOS here. If the strap is cut loose, do you believe that there is anything else holding the beam down?

SC Not from the outside, Rusty, but realize that whole (garble) hinge is deployed underneath the SAS on the other side. I can see it clearly and there is skin all under there, but I believe all the skin tore either clean where it runs underneath it or tore it off parallel to the SAS beam itself. It's just for that one angle (garble) hanging over it.

CC Roger. Three seconds to LOS.

SC And I want to tell you something else next pass, Rusty.

CC Okay we'll see you in Guam at 08.
PAO Skylab Control, Houston; at 19 hours 3 minutes Greenwich mean time. We heard the discussion between the Mission Control Center CAP COM Henry Hartsfield as well as backup commander Rusty Schweickart talking to Pete Conrad and Paul Weitz aboard the Skylab critiquing the standup EVA and the attempt to deploy the solar panel, also discussing possible alternate solutions which will be studied here on the ground. We're 4 minutes away now from acquisition with Guam tracking, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-153/1

Time: 14:03 CDT, 147:19:03 GMT

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CC Skylab, Houston through Guam for 7 minutes.
SC It's kind of obvious, as Pete said, that angle is really wrapped up around that and even though it makes an angle of 30 or 40 degrees with the axis of the beam fairing, it is just part of the contour of the beam. It has, in fact, lifted the meteoroid shield up away from the vehicle. That section of the meteoroid shield is still attached top and bottom by the - by the deployment link arm. And that, in fact, when the meteo - when the SAS tried to deploy, where that piece goes up over top, it heaved that meteoroid shield on up and it buckled there.

CC Roger, Copy.

SC I didn't mean buckled, I meant that it's bowed quite distinctly by the - by the wing pulling on it. So, I'm convinced that there's still a load. I don't think it's quite far enough to permanently deform or put a dent in the meteoroid shield. I still think the strap is holding it together and the forces in the system right now (garble) separate the two.

CC Roger. Copy.

CC Paul, do you think you've put enough force on that SAS wing to break the damper (garble)

SC Yes, sir. I sure did. However, none of it got transmitted to the damper because, it all got taken up by the angle.

CC Roger.

SC Now, your real concern, I assume, is whether it's broken yet or not. And I have every confidence that it's not.

CC Roger. We copy. We were just wondering if you cut the strap. You know, if the damper was - -

END OF TAPE

SL-11 MC154/1

Time: 14:09 p.m. CDT, 147:19:09 GET
5/27/73

SC Your real concern, I assume, is whether it's broken yet or not. And I have every confidence that it is not.

CC Roger, we copy. We just wondered if you cut the strap you know, if the damper was frozen the thing still might not go very far.

SC No, no - no (garble) - Oh, I see. Right. No, I think it's still in there and anchored.

CC Skylab, Houston. I got a checklist comment for the CDR.

SC Go ahead.

CC Okay. On page 2-148, when you get down to the film dosimeter transfers. We want to delete the last item, which is the ETC5 film canister and bag. We shouldn't transfer that until the film vault is down to 90 degrees.

SC Okay.

SC Hey, Henry. If we got enough time left in this pass I'm about to do a trash airlock dump, if you want to watch it.

CC Roger. We got 2-1/2 minutes.

CC Skylab, Houston. We're about 30 seconds from LOS. Goldstone will be coming up at 31.

PAO Skylab Control, Houston; at 19 hours 15 minutes Greenwich mean time. We've just had loss of signal with Guam. The next station to acquire Skylab will be Goldstone in approximately 15 minutes.

END OF TAPE

SL-11 MC-155/1

Time: 14:29 CDT, 14:19:29 GMT
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PAO This is Skylab Control, 19:29 Greenwich mean time. Minute and a half out from Goldstone for a fairly solid stateside pass through - Very good coverage from Goldstone across through the southern edge of the Bermuda tracking station circle. Very frequently, the acquisitions have been running slightly earlier than the predicted time shown on the AOS clock. We'll stand by now as AOS clock shows about 15 seconds to lock on to the spacecraft. At 19:31, standing by, this is Skylab Control.

CC Skylab, Houston. Stateside for about 6 minutes.

CC I guess we'll probably have you about 19 minutes. There may be a short dropout between Goldstone and Texas.

CC Skylab, Houston. For whoever is available to go to the ATM.

SPT I'll go.

CC Okay. We would like to get the star tracker enabled and bring it up to the pad values we gave you this morning. And we'd like to enable - computer control the star tracker. That's data command 50004, but do not enable new Z.

CC And Skylab, Houston. We think bed 2 bakeout is probably complete too.

SC Okay. Just a minute.

SC Hey, Hank I think you've got a little mistake on page 3-12 in the systems book. Would you open it please?

CC Okay, stand by.

SPT Houston, SPT. What do you need?

CC Okay, you at the ATM?

SPT I am now.

CC Okay, what we want to do is bring the star tracker up to the pad angles we gave you this morning. And we wanted you to enable computer control to gimbal.

CC Star tracker control - -

SC (garble) please Hank, they were in another book. We didn't have the books out.

CC You want the pad values again?

SC Yeah. I remembered the star, give me the gimbal angle.

CC Okay, inter gimble minus 0660. Outer gimbal plus 1620. And we want you to INABLE star track control and that's 50004, data command.

SC I already did that. I did that this morning.

SC Hey, Hank. On the CSM system 3-12, the third step down there; what power off on panels

SL-11 MC155/2

Time: 14:29 p.m. CDT, 14:19:29 GMT
5/27/73

9 and 6 are you talking about?

CC Stand by one, we'll get that.

CC Okay. That's a audio tone power switch I think you're talking about there, Pete.

SC Well, if I turn those off I lose all comm throughtout the workshop except in the command module.

CC Let us take a look at that. You're probably right.

SPEAKER (garble) then disable channel

Bravo for recording?

SC Hi there Rusty, you're up Skylab loop.

CC Okay, Pete. You're right there. Why don't you both standby on that and we'll take a look at it. I think we got something wrong on the checklist here.

SC I think you do too. It got awful quiet in here.

SC Okay, be advised that section 3-12 is complete with the - except I (garble) on. The G6N computer is still on. All else is done except hold on your panel 9 and 6 stuff.

CC Roger. Copy. Good show.

CC And you were right Pete. We're going to need power on all three of those panels.

SC Okay.

CC Skylab, Houston for the SPT.

SPT Go ahead.

CC Roger. Telemetry is showing that star track control is not enabled.

SPT Okay, maybe you guys can inhibit it again. I'll check it.

CDR How many watts is the command module drawing now Hank?

CC Stand by.

CDR Under this configuration.

CC It looks like about 700 watts.

CDR That's about 300 less than you figured wasn't it?

END OF TAPE

SL-11 MC-156/1

Time: 1441 p.m. CDT - 14:19:41 GMT
5/27/73

CDR Houston, Skylab.
CC Go ahead.
CDR It's done now Hank, are you ready to -
enable orbital plane error update?
CC Negative, we don't want to do that right
now. We want to look at it one more rev.
CC And while you're up there Joseph, can
you terminate the bed 2 bakeout?
PLT (garble) Okay. (garble)
CC Joe, for your information the star tracker
locked on just like we thought it would and the computer has
dropped the vehicle back in plane, and we should get a good
momentum dump this night time.
PLT Hope so.
CC Skylab, for info we'll be dumping your
data recorder now.
CC Skylab, PLT. No need to acknowledge
when you did the trash airlock. Dump while ago we did see a
slight rise in pressure in the waste tank.
SC (garble)
CC Skylab, Houston. One minute till LOS.
Ascension at 59.
SC Yeah, (garble)
PAO This is Skylab control 19:50 GMT. Loss
of signal as the Skylab cluster passed over the hill from the
Bermuda tracking station. 8 minutes now to Ascension.
Ascension Island tracking station for 5 minute pass fairly
low elevation angle. On revolution number 190 for the work-
shop. Another quiet state side pass. Joe Kerwin went back
up into the airlock and multiple docking adaptor to terminate
bakeout as one of the molecular sieve beds, and he had reported
that he had already gone through most of the routine for
activating the star tracker for the telescope mount. The
workshop guidance system. 7 minutes till Ascension and at
19:52 GMT this is Skylab control.

END OF TAPE

SL-II MC-157/1

Time: 14:57 CDT 14:19:57 GET
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PAO This is Skylab Control 19:57 Greenwich mean time. A minute and a half out of the Ascension Island tracking station, just grazing the edge of the station circle for the last time today. Next row, we start picking up the tracking ship Vanguard. And the final pass through Carnarvon of the day as the orbit precesses westward. The television on the monitors in the news room is a playback of the earlier television from the workshop. This may be played back any number of times during the day as different people request to look at it. We'll stand by now for a fairly brief conversation through the Ascension Island station. Five minute total tracking time over Ascension. Skylab Control Standing By.

CC Skylab, Houston through Ascension for 6 minutes.

CDR Roger.

CC For the CDR no need to acknowledge, EGIL recalculated the CSM power, and it's pulling about 900 watts.

CDR Roger. Do you know how many days that gives us? An estimate.

SPT Let me ask you, while you're thinking that one over, Houston, this is the SPT. I'll give you some food temperatures. The temperature in locker 749 was 104. The air temperature is 98. The temperature inside food locker 562 is 116 degrees and the temperature on the surface of food locker 555 is 110. Over.

CC Roger. Copy. About what time did you take those, Joe?

SPT I just read the latter two a few minutes ago. The air temperatures and the locker temperatures were taken about 30 to 35 minutes ago.

CC Roger. Copy.

SPT Yeah, the food lockers are as of right now.

CC Joe, how are the temperatures in the film vault?

SPT Hank, between star tracking and vent systems, I haven't got back to the film vault yet. I'm about to. Okay, the temperature in W-706 in the two locker is 106 degrees so the crew is splitting all the pills in that locker between them, and we're going to eat them today.

CC Roger.

SPT Be advised, err OWS (garble) cage has come off the deg and reads 197.5.

CC Roger. 97.5.

SL-II MC 157/2

Time: 14:57 CDT 14:19:57 GET
5/27/73

SPT It's falling.

CC We've got about a minute to LOS. We
come up on Carnarvon at 30. Before we loose contact here
if its convenient, we'd like to get a progress report.

SPY The PLT is still trying to get the urine
system activated, and the CDR is right now in the process
of activating the condensate holding tank.

CC Roger. Copy.

PAO This is Skylab Control at 20:04 Greenwich
mean time. AOS Carnarvon in 24 minutes. Crew reported that
the ambient atmospheric temperature in the workshop was
down now to 97.5, at least by their readings. The food
locker temperatures were in the same range, 98 and 106
respectively, in the locker air, and the locker structure
wall itself. Twenty-Four minutes to Carnarvon, and at 20:05
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-158/1
Time: 15:26 CDT 147:20:26 GET
5/27/73

PAO This is Skylab Control, 20:27 Greenwich Mean Time. Skylab Workshop in the Southern Indian Ocean, midway through revolution 190. Little over a minute out of Carnarvon, with a 6 minute gap from loss of signal at Carnarvon, skipping across the Republic of Indian - Indonesia to the Guam Island tracking station. We'll leave the circuit up for this small gap from one station to the other. From Guam across to Goldstone is approximately 15 minutes for fairly solid stateside pass on revolution - end of 190 and the beginning of 191 - Goldstone, Texas, and Mila Bermuda has been released because it is such a low elevation angle pass this time. It has been released for the remainder of the day. Should be getting AOS here momentarily through Carnarvon we do have data. Skylab Control standing by.

CC Skylab, Houston. Through Carnarvon for ten minutes.

SPT Houston, this is SPT want some (garble) How about some (garble) temperatures.

CC Okay, go ahead.

SPT Okay, this is with the digital thermometer. Drawer Bravo was 106.8. Delta was 107.0 Foxtrot was 106.0, Hotel was 108.5, Juliet 107.5, and drawer Kilo, on a S191 film container was 106.3. The hottest part of the vault was the door which was 109-1/2.

CC Very good report, Joe. Thank you.

CC Skylab, Houston. When convenient, we'd like to terminate the Bat-B charge.

SPT Roger.

CC And, also Skylab, Houston.

If not already done so, we'd like to terminate the bed 2 bakeout. And after a fifteen minute interval you're clear to activate mol sieve A.

SPT Roger, Houston. We'll get the Bat-B charge in a minute and (garble) the mol sieve. It has been terminated and we'll activate mol sieve A in a minute. But keep reminding us, we're awful busy.

CC Roger, will do. And we're about 30 seconds from LOS. We should be coming up on Guam at 43, but they've been having trouble with their USB, we may not have comm there. If not, we'll pick you up at Goldstone at 08.

END OF TAPE

SL-II MC-159/1
Time: 15:40 CDT 147:20:40 GET
5/27/73

PAO This is Skylab Control. That scratchy noise was loss of signal from Skylab as it went over the hill from Carnarvon. Two and a half minutes to Guam. We may not have voice contact through Guam in as much as the station has been having trouble with its unified S-Band equipment. But, at any rate, we'll leave the circuit up for the Guam pass, just in case there is additional conversation. At 20:41 Greenwich mean time and standing by, this is Skylab Control.

CC Skylab Houston through Guam for 9 minutes.

CDR Garble)
CDR Roger Houston. Bat B charge is being terminated at this time. Mol sieve A is coming on the line and the condensate holding tank is taking a long time (garble) doing some other things at the same time like working through (garble) we'll have to bring you up to date a little later on.

CC Roger Pete. You were getting a lot of interference feedback through the speaker boxes. It's difficult to understand you there.

PLT Battery charge is terminated.

CC Copy.

CDR Hank, give me a short count. We're trying to set the volume on these things.

CC Okay, 1, 2, 3, 4, 5, 5, 4, 3, 2, 1.
Houston out.

CDR Okay, I think I've got most of the feed out of it now. How's that?

CC Hey, that sounds a lot better.

CDR Okay, it turns out that the wardroom box and the box next to panel 611 feed very badly with the boxes under each scientific airlock, which we've never seen before.

CC Roger, copy.

CDR And you did say Hank, you want us to go ahead and put the mol sieve A on the line, right?

CC That's affirmative.

CC Pete, how long have you been working evacuating that holding tank?

CDR I've got the 9 minutes on the oneside, and I am 20 minutes into the other side for a 30 minute fold.

CC Roger, copy.

CC Those times sound pretty close to nominal
Pete.

CDR Yeah, that's for the checklist, Hank.

CC CDR Houston. No need to acknowledge. We've been looking at the flight plan here, and it looks to us like that we should be concentrating on completing

SL-II MC-159/2

Time: 15:40 CDT 147:20:40 GET
5/27/73

the water system activation as you suggest. Try to get one suit to drying. Get the decompressing going and activate the SMMD. It seems to us that those ought to be the priority items.

CDR Every one of those things is in work. The urine are in work, the fecal processing is in work the suit drying is in work. Joe has been estimating some of that. And I'm working on water system, and so is Paul. I think that by tonight we'll have the wardroom on the line and water system on the line one suit being dried, all the waste management is running correctly and with that, we'll probably give it up.

CC Roger, that sounds good Pete, we concur.
PLT Are you there Houston?
CC Go ahead.
PLT Be advised that I had to use the secondary primer on mol sieve A. Primary didn't start it.

CC Roger, copy.
CC We'll smoke that one over. We're about 30 seconds from LOS. We should picking up Goldstone at 08.

CDR The circuit breakers are closed.
CC Roger, copy.
PAO This is Skylab Control at 20:53 Greenwich mean time. Skylab space station passing out of acquisition by the Guam Island station which apparently had repaired their S-band equipment, because we did have voice communications through that station. Goldstone in 14-1/2 minutes. And it is very likely that we will have additional television from inside the workshop. Also during this recent pass over Carnarvon, the film vault temperatures were read up, read down by the crew. They ranged generally to 106 to 108 in the different locations where the portable thermometer had been inserted in the film vaults. Activation of the workshop is proceeding fairly well. In fact, they tend to be somewhat ahead of the time line and anticipated the call-up by the Capcom on suggestions to proceed with suit drying and fecal processing. And Conrad stated that most of these items were already in work. Goldstone, Texas and Mila stateside pass starting in 13 minutes. At 20:54 Greenwich mean time this is Skylab Control.

END OF TAPE

SL-II MC-160/1
Time: 16:06 CDT 147:20:07 GET
5/27/73

PAO This is Skylab Control at 21:07 Greenwich mean time. About 40 seconds now, from acquisition through Goldstone for the stateside pass, which will hopefully will include onward television. Here's a call to the crew.

CDR Okay, Houston, unless you want us to turn the camera on in the same location, we don't have anything to give to you, we've been too busy.

CC Okay. No problem.

CC You are turning it on, aren't you Pete?

CDR I will, just a second.

CC Skylab, Houston. We're going to uplink drift compensations for the X and Y GYROS and we need you to be off the DAS.

CC Okay, we got a good picture.

CDR Hey, Houston, we just had a momentary sieve (garble) went off.

CC Roger. Copy.

CDR Hey, Hank, we got a good switch over timers on the (Garble) mol sieve. They're on the secondary timers.

CC Roger. The ship operation looks good to us down here.

CDR Okay.

CDR Commence beds switch over.

CC We're troubleshooting that primary timer problem. We're not sure if you turn it on it's supposed to do an immediate cycle. We're trying to check it out.

CDR Well, I'll tell you - -

CDR We just had a sieve A drift pole light on for about 10, 15 seconds, went right back out.

CC Roger. We recommend you inhibit that caution and warning there until the sieve stabilizes.

CDR Think we can expect that for awhile?

CC Roger. That's affirmative.

CDR Okay. How about if we inhibit it for now and, you remind us later on today to enable it, all right?

CC Roger. We will do that.

CC Looks like you're dragging a body around there.

CC And Skylab, for info, we'll be dumping the data recorder over Mila, and that's coming up in about another minute.

CDR Hey, Hank, you guys watching the TV?

CC That's affirmative.

CDR Okay, I want to show you the data card kits. They made them wrong, and none of them fit.

SL-II MC-160/2

Time: 16:06 CDT 147:20:07

5/27/73

CC Okay, we're looking at a (garble)
CC Okay, you got the bags right in the
middle of the picture now.
CDR The snaps on the end of the straps are too
small.
CC Roger. We saw it.
CC Skylab, Houston. We're about 1 minute from
LOS. Vanguard will be coming up at 34. That was a good show.
CDR Roger. We're getting there. Slow, but
sure.

PAO This is Skylab Control. Loss of signal
through the Mila station. The spacecraft now over Northern
Brazil. Still 8-1/2 minutes now until acquisition at the
tracking shop Vanguard. Seven minute pass over the Vanguard.
Fairly interesting television transmission from the space-
craft during this stateside pass, with its eight succeeding
series of TV pictures, it appears the crew is even more
adapted to zero g in maneuvering their bodies up and down
the workshop into the various spaces as they activate systems
and move equipment around. At 21:26, up again in 7 minutes
for Vanguard, this is Skylab Control.

END OF TAPE

SL-II MC-161/1

Time: 16:33 CDT 147:21:33 GET
5/37/73

PAO This is Skylab Control at 21:33 Greenwich mean time. One minute out from acquisition by the tracking ship Vanguard, still in position off the southeast coast of South America. After Vanguard, it is about an hour and 3 minutes until the next station, which will be Goldstone. This rev 191 misses Carnarvon and Guam. It crosses Singapore near Saigon over Taiwan and up the Japanese island chain south of the Aleutians and then starts downward on the descending node through - along the west coast of the United States and across Baja California and back out in the Pacific. Should have acquisition now through the Vanguard; 21:34 standing by, Skylab Control.

CC Skylab, Houston through Vanguard for 5 minutes.

CC Skylab, Houston. We've got you for another 5 minutes through Vanguard.

PLT Roger, Houston.

CC And Skylab, Houston, we need to get somebody up to the command module for a couple of items. We're expecting a caution and warning, if you haven't already gotten it on the condenser exhaust temperature for fuel cell. They are getting too cold. We need to take the fuel cells 1 and 3 radiator switches to emergency bypass.

PLT Okay. Roger.

CC And while you're up there, on panel 250 we'd like to get the main bus interconnect circuit breakers, main A and main B closed. We want to tie the buses together.

PLT Okay.

CC The reason for that is load sharing. Fuel cell 3 is carrying three times the load of 1 because it is carrying all the AC.

PLT We don't have to close any breakers to get those radiators in bypass, do we?

CC That's negative. Just throw the two switches on panel 3.

PLT Okay.

CC We're checking that circuit breaker question.

CC Okay, you might check those circuit breakers on panel 226. The RAD bat relay circuit breakers 1 and 3. They verify that they're closed. If they're not, close them.

CDR Okay Hank. Even before looking, I'm quite sure they're good. I don't think they have been closed the whole mission.

CC And after you close the circuit breakers

SL-II MC-161/2

Time: 16:33 CDT 147:21:33 GET
5/27/73

and throw the switches we would like for you to pull the circuit breakers again.

CC And before we lose comm here, which is a pretty low elevation pass, we would like to verify that somebody has turned the TV off.

CDR Okay, we'll take care of it and we'll see that the radiators are in bypass.

CDR Hello, Houston.

CC Roger, go ahead.

CDR Just had a fire alarm in the OWS heat exchanger compartment. We don't see anything. I turned off the alarm and reset it again. And it must have been a (garble). We don't see anything. Anything you'd like us to look at in there?

CC We're looking and we're just about to lose you for a long LOS. Keep an eye out. Everything looks okay down here, at a cursory glance. We'll see you over Goldstone at 22:45.

CDR Okay.

CC We're right in the middle of the south Atlantic anomaly. I don't know whether I'd accept that thing or not.

PAO This is Skylab Control 21:42 Greenwich mean time. We've had LOS from Vanguard. Next pass over that ship will be a little bit longer duration, higher elevation angle. At about 61 degrees, we're now in 2 minutes away from Goldstone. No further tracking station until Goldstone. Goldstone and Texas - it shaves down the edge of the California and Baja California and Mexican coast, and moves out into the Pacific on descending nodes for the next several revolutions, beginning to come back across the Indian subcontinent and central Asia and China on the ascending nodes. And hour at 1 minute to Goldstone. And at 21:43 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-162/1

Time: 17:20 CDT 147:22:20 CET

5/27/73

PAO This is Skylab Control at 22:20 Greenwich mean time. Skylab space station now over the east coast of Indo China between Indo China and the Phillipines. And we'll shortly cross Taiwan. We're still 24 minutes out of Goldstone. At the present time flight controllers are viewing the replay of the last stateside pass onboard television. This TV is being piped over to the Houston News Room. It's simply a replay some 20 minutes or so of television that were piped down from Skylab through Goldstone Texas and Mila. One apparent thing in the TV is the adaptation that the crew has successfully taken on and moving around to zero g. They make it appear simple. We'll be back again in 23 minutes for a brief stateside pass through Goldstone and Texas the last of the evening. The following rev will start coming through Hawaii and Vanguard. And at 22:22 Greenwich mean time this is Skylab Control.

END OF TAPE

SL-II MC-163/1

Time: 17:44 CDT 147:22:44 GET
5/27/73

PAO This is Skylab Control. 22:44 Greenwich mean time. About 40 seconds out from acquisition for the final stateside pass for the evening, Goldstone and Texas. The teleprinter questionnaire will be uplinked to the crew during this pass. A few questions about apparent condition of the food, particularly the canned food. Some questions from the Surgeon on their work cycles; how long they could work without having to take a rest break, and their subjective appraising of how working in the Skylab workshop has been under the elevated temperatures. The answers to the questions will be discussed later on air-to-ground. There will be no TV during this stateside pass. LOS in 12 minutes. We're live now for the conversation across the state.

CC Skylab, Houston. We're clearing an ACS alert, for information.

CDR Okay.

CC And did you have any more of those fire alarms?

CDR No, we didn't. I got that sensor clean out of there. The one that looks into the back of the package, and not looks at the fan. Took the sensor clear out of there, shined my flashlight down in there, and I couldn't see anything. It's just a black hole down there, that's all. Don't asked me lit it off we put it back in, retested the system that's okay, and (garble).

CC Roger, copy. And we got some good news on your bags there, at least we've found a replacement. In W751 there's some utility bags and I think those will make a good substitute for your data card bags.

CDR Okay, where is that, 751?

CC That's affirmative. We did check those in the trainer and they work okay.

CDR Okay, I don't know how heavy small samplers but I would think (garble) later. 751 we'll look, thank you.

CDR Hey, I wrestled my way through that condensate gate. I think it's all complete - it's all evacuated. That's as far as the procedure goes. We had a few items between there like which ones in the command module and so forth. I'm just finishing up the flight data file stowage right now. I'm on my way to 742 while passing (garble) 126 and so forth. So we're slowly getting organized.

CC Roger, copy.

CDR Everything we just finished spending a little time on was - we thought we had the (garble) system all rigged up and it wouldn't work. I was the test subject and I had a big failure. And we went back and regrouped on it and we've concluded that you have to have a fecal bag in the thing.

SL-11 MC-163/2

Time: 17:44 CDT 147:22:44 GET
5/27/73

You have to have the fecal bag there a certain way or you just don't get enough vacuum through the urine system enough flow, to pull urine down the urine tube, but the other two guys have been working on that down for a while. They say it works okay.

CC Roger, copy.

PLT Hello, Henry. Look at page 101, will you please.

CC Go ahead.

PLT Under PLT there, the first step there. (garble) water tank work (garble) and move.

CC Okay, we give up.

PLT About an extra half, notifying you.

CC Okay.

PLT Not only that, but I'm not continuing per the checklist.

CC Okay, stand by for a minute.

CC Paul, we'd like to verify that you completed the water purge after we terminated that time.

PLT Okay, this is screwed up, doing this stuff in bits and pieces, interrupted and that, that I don't know what I've done, but I have accomplished everything in the checklist up to this point. As spelled out in section Bravo (garble) Flight Plan.

CC Roger, copy.

PLT As I remember, I did not finish a 15-minute suck on the wardroom water heater, when you called me and want it terminated. After that then I think I did a 5-minute purge on the chiller.

CC Okay, the message I guess follows, is to press ahead, we think it's okay.

PLT I was hoping you'd say that.

CC PLT, Houston. We'd like to get you to turn those 35 psi toggles on, one at a time so we can watch them.

PLT Is that the nitrogen regs you wanted one at a time?

CC That is affirmative.

PLT Okay.

CC And another thing we'll throw out for consideration here. It looks like to us that the momentum management is almost perfect, and we'd like to bring the star tracker up according to the pad we gave you. Acquire and enable star tracker update. That's 52011, 50011. You can do that anytime prior to Vanguard, which is 23:10.

PLT Okay. Here comes reg A.

SL-11 MC-163/3

Time: 17:44 CDT, 147:22:44 GET

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PLT Holler when you're ready for B.
CC We're still looking for reg A.
CC We're seeing it come up - number 1 is
coming up after one more thing about the star acquire, after
you get the star tracker on the line we want to make sure
you inhibit the MPC.
PLT Do you see any (garble) at all, Henry,
I'll tell you, that - when I opened the reg, I heard some
rattling noises in the line, and the pressure on the potable
water tank is coming up very very slowly, if at all.
CC Roger, we think it will take a while
because all the lines have got to come up.
PLT Okay. Also, you know water tank 1 is
right at what is now the hottest spot on the interior of the
vehicle. So I'm not sure any reading I have are going to be
any good. And in wardroom 2 is going to have to work it's
little heart out to cool that stuff off.
PLT Actually tank 1 ain't so bad, tank 2 is
the one that's really a heartbreak.
CC Okay, let's go ahead with the other reg
now.
PLT Okay, they're both on and I can hear the
nitrogen flowing a little faster, but not much.
CC Roger.
CC And Skylab, EGIL says the sieve flow
looks real good now, very stable, and so you're clear to
enable the sieve flow caution and warning any time you wish.
PLT Okay, thank you.
PLT Hank, can I open the pressure valve to
tank 7 now, or do you want me to wait until the pressure comes
up in the line a little more.
CC Okay, you can press ahead.
PLT Okay.
CC And we're about 30 seconds from LOS.
We'll be picking up Vanguard at about 11. And don't forget
to inhibit the MPC.
CDR Rog.
PAO This is Skylab Control. 22:58 Greenwich
mean time. Final stateside pass of the day across Goldstone
and Texas tracking stations. Skylab cluster now due west of
the Isthmus of Panama. And slightly over 11 minutes away from
the Vanguard tracking ship. Current orbit measurement 234.9
nautical at perigee, and 239.8 at apogee. Orbital period
1 hour 33 minutes 14 seconds. Next conversation with the crew
over Vanguard in 11 minutes. At 22:59 Greenwich mean time,
this is Skylab Control.

END OF TAPE

SL-II MC-164/1

Time: 18:10 CDT 147:23:10 GET
5/27/73

PAO This is Skylab Control, 23:10 Greenwich mean time. We should be in acquisition now through the tracking ship Vanguard. Standing by for resumption of conversation between spacecraft communicator Hank Hartsfield and the crew of Skylab.

CC Skylab, Houston through Vanguard for 6 minutes.

CDR Hello.

CC Skylab, Houston. We've got a dump maneuver starting now. You're going to have to wait on that star tracker. Wait until next daylight.

CDR Okay, Henry. Nobody was quite sure who was doing it.

CC No sweat, don't worry about it. In the teleprinter there, you're going to find a few messages. We'd like for you to browse those over in preparation for our evening status report that will be over Hawaii at 01:50, just another reminder. Later on this evening, we'll start our commanding in support of the -commanding to the APCS in support of the unattended checkout of the ATM.

CDR Roger.

CC We should be sending the first commands up over this site.

CC And Skylab Houston. If you have no objections, we won't give you a running account of what we're doing on this unattended checkout.

CDR That's Okay.

CDR (garble)

CC Skylab Houston. We're about 30 seconds from LOS. And the next contact is Hawaii at 19.

PAO This is Skylab Control. Apparently we have had loss of signal from the tracking ship Vanguard. Hawaii in 59 minutes. A very low elevation angle pass on the northeastern quadrant of the Hawaii acquisition circle, only 4 degrees - a very short pass of 3 minutes. All going well aboard the space station at the present time as the crew continues to activate the various equipment and systems aboard. And as mentioned by Hank Hartsfield to the crew during the Vanguard pass, we will start ground commanding some checkout runs of the Apollo telescope mount - ATM experiments and systems. In about an hour and a half, some of the initial commands were up-linked at Vanguard. But most of these checkouts will begin at about 8:00 p.m. central time. Fifty-eight minutes from Hawaii. The spacecraft over the south Atlantic midway between South America and the African continent. At 23:21 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-165/1

Time: 19:19 CDT 148:00:19 GET
5/27/73

PAO This is Skylab Control. 00:19 Greenwich mean time. Due to acquire at Hawaii for a very brief pass across the northwest - northeastern edge of the Hawaii circle.

CC Through Hawaii for three minutes.

CDR Hi there. How goes it. I'm, up to my ears in stowage transfers. I don't know what the rest of the guys are doing.

CDR The PLT and the SPT are in the (garble) moving food boxes.

CC PLT, Houston. Are you finished with the water system now?

CDR Yes, he is, and the SPT has the SMMDs activated, and the Command Module food transfer done, but not the ambient food transfer.

CC Roger. Copy.

CDR You guys better start gimbal angles minus 660 plus 620, I can't get anything there.

CC Okay, we'll work on it and, as a matter of interest, too, Pete, we see that the condensate tank Delta P is down to about 1.34. It probably won't make the night, so some time this evening you should plan on connecting the condensate dump port up to the holding tank, as outlined on page 137.

CDR I'll be in the midst of the stowage transfer on 2-146.

CC Roger. Copy. No rush on that condensate thing. I just wanted to make you aware of it. It's something we'll probably have to do this evening. And we're about 20 seconds from LOS. We'll be coming up on Vanguard at 47, and we'll get a recorder dump there.

PAO This is Skylab Control. Very brief conversation there, across Hawaii. Pete Conrad commented that he was "Up to my ears in stowage transfers" moving some of the stowage lockers from the lashed down position on the deck down to their permanent flight position. Paul Weitz commented that he was in the process of moving food boxes to their final location. Temperature readings in most of the locations are still in the 90 range, however one sensor in the wardroom wall had got below 90, and was indicating 89. All the others are still in the 90s. Workshop atmospheric pressure, 5 pounds per square inch. Partial pressure of carbon dioxide is 3.3 millimeters of mercury. In as much as the Skylab crew is all Navy, the Capcom console has a fairly large placard attached that says "Sailors have more fun" I guess that all depends on where they are. 21 minutes to Vanguard, and at 00 hours 25 minutes ground elapsed time, this is Skylab Control. ||

END OF TAPE

SL-II MC-166/1
Time: 19:46 CDT 148:00:46 GET
5/27/73

PAO This is Skylab Control 00 hours 46 minutes Greenwich mean time, about 15 seconds from acquisition through the tracking ship Vanguard. Waiting for Vanguard to lock up on the spacecraft. A 10 minute pass almost directly - well, not really.

CC Through Vanguard for 10 minutes.

SC Roger.

CDR Hey Hank.

CC Go ahead.

CDR I may have goofed there if you see something funny on your ATM. I didn't think we were - I didn't hear that one thing that you passed, and I didn't think we were supposed to be in experiments pointing, so I went to SI. Then Joe told me we were supposed to be experiment pointing so I went back there again. I hope I didn't goof anything up.

CC It looks okay now, Pete. That should be all right.

CDR And be advised we're on the big condensate tank.

CC Good show.

CDR Will you have the stowage people check and see if there was a CX21 35-millimeter empty cassette on board. It should have been empty if it's onboard at all.

CC We'll check.

SPT Houston, this is SPT.

CC Go ahead.

SPT I've got a question about suit drying. I had thought I heard preflight that we were not going to use the suit dryer. However, the procedure said to use it and I went ahead and started the first suit. Is that right?

CC You're absolutely correct, Joe. We want to dry the suits (garble) with the dryer.

SPT Okay.

CC The change we're not baking the (garble)

SPT Okay.

CC Okay, and I have a star pad now for somebody if they want a copy that you can use when you get back into daylight.

CDR Go ahead.

CC Okay, the star's Canopus 50,001 it is available day at 2950 to night 0448, OUTER GIMBAL plus 1770, INNER GIMBAL minus 0667. And this is valid from 0045 to 0545.

CDR Okay, you want us to get it going in ENABLE STAR TRACKER update. Is that correct?

CC That's affirmative and we need it prior to Hawaii, and we need after you do it MPC inhibit.

CDR Okay.

CC We're going to be driving the wedges Pete over here in Hawaii.

SL-II MC-166/2

Time: 19:46 CDT 148:00:46

5/27/73

CDR Okay. When do we get to Hawaii?
CC Hawaii is coming up in 55.
CDR Okay, I'll go do it right now.
CC Not this 55, an hour - a little over an
hour from now.
CDR Oh, okay.
CDR Hey Hank, did ya'll decide the film vault
was cool enough for me to take the ETC magazine down yet
or not?
CC We'd like to leave it in the command
module overnight, Pete.
CDR Okey dokey.
CC I'm informed now that that's scheduled for
a day-6 transfer.
CDR Okay.
CC Pete, we've been looking at this star
pad and, you know, I gave you it was available with 2950 of
day remaining. It turns out that's about 5 minutes prior
to Hawaii.
CDR Okay. Give me AOS Hawaii, exactly.
CC Okay. Hawaii AOS is at 01:55. So,
as soon as it becomes available, we'd like you to get right
on it so we can be ready to start commanding as soon as
we get acquisition.
CDR All righty.
CC Skylab, Houston. We're about 1 minute
from LOS. We'd like to remind you we plan to do the evening
status report in Hawaii in the pass coming up. And we'd like
to be prepared there to discuss the pad we've up-linked and
our plans for tomorrow.
PAO This is Skylab Control at 00:57 minutes
Greenwich mean time. Our space station sinks slowly in the
east, away from the Vanguard tracking ship at the beginning
of revolution 196. Would you believe 193? To summarize
the day's activities, the temperature trends have been down-
ward in the workshop during the day. Some of the temperatures
have gotten into the low 90's and in one location, one particular
sensor in the ward room area, temperatures down below 90,
at 89. We've had two television passes from the workshop
dome camera location during the day, showing the crew in
rapid adaption to zero g, sailing up and down through the
openings in the grid decks, moving equipment from the launch
stowage positions to the operational locations. The crew
has begun the suit drying procedure. They've activated the
fecal processing plant. Here on the ground, the Apollo
telescope mount experiments and systems will be checked
out remotely through the network. The first commands were

SL-II MC-166/3

Time: 19:46 CDT 148:00:46 GET
5/27/73

sent up over Vanguard last revolution - revolution 192. Also a rev or two ago, a teleprinter message with several questions from the flight surgeon were relayed up, which will be discussed during the upcoming Hawaii pass in some 54 minutes. Currently, the orbit measures 234 by 239 nautical miles. At Hawaii, the evening fireside chat will be held to discuss tomorrow's activities. And also the before mentioned questions from surgeon on the work-rest cycle and activating the workshop. Fifty-four minutes from Hawaii, we're on the backside of the orbit now where Hawaii and Vanguard are the only two stations for the next couple of revs. As we move farther westward, we start picking up Guam in the early part of the descending node. The spacecraft will be crossing the Cape of Good Hope across the tip of South Africa in a few moments. And at 1 hour and 1 minute Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-167/1

Time: 20:54 CDT 148:01:54 GET
5/27/73

CDR Roger, Houston.
CC And roger, we need status reports.
CC We need the MPC inhibited, first off.
CDR Joe left it on and we're sorry.
PAO This is Skylab Control. Conversation in progress through Hawaii. An early AOS here, according to the clock.

CDR Okay, let us give you the - we have voice recorded on Channel A

CC Okay. We're ready to verify that.

CDR Okay, on the food log, you will find the complete food log for day 1 and 2 on A channel record. Okay? Just to speed things up, the records will be tomorrow on A Channel. Today, day 3, let me give you the Alpha urine volume. CDR 210. SPT 160. PLT 200. Now we got a set of water gun readings that are initial water gun readings that we started out with about 4 hours ago. Better write these down, and then tomorrow on the next evening status report, you'll have about 4 hours - you'll have about 3 hours of today's water and all of tomorrow on it. CDR's water gun initial reading at activation was 3338, the SPT's was 6828. The PLTs was 1892.

CC Copy.

CDR Today, we have no body mass to give you, no exercise to give you. We'll cover item Echo on the COM tonight. Although there isn't anything to report, we're in good health. And let me read you today's food log.

CC Let it go.

CDR Okay. The CDR ate everything today, except corn. The reason for that was the bag failed when inflating with water, and I got corn all over everywhere, but couldn't eat it. Now, for yesterday, Joe calculated that I should have taken, and I did take, two magnesium, two calcium pills. Now, SPT didn't eat his biscuits or jam for breakfast. Drank coffee and butter cookies for snacks, and his nominal pills for the day before yesterday were one magnesium, one calcium, which he took. And the PLT ate half his bread. He did not drink his coffee with sugar for breakfast. For lunch, he didn't eat his asparagus or bread, and for a snack he did not have his coffee. And he had one magnesium. And the H2O shots that I'm going to give you are from the command module guns so they're half-ounce shots. CDR had 40, SPT had 6, PLT had 60. There were no DELTA H2Os. There were no salt pack usage. And tomorrow morning I will take one calcium. Joe has none. Paul has none. Plus anything you send up for us.

CC Roger, we copy.

CDR Copy all that.

SL-II MC-167/2

Time: 20:54 CDT 148:01:54

5/27/73

CC Roger, we copy.

CDR Okay. Now, I'll give you a film status tomorrow. The only film we used was during rendezvous and I'll itemize that out for you. Bring you up to date tomorrow, when we get going. We would like you to send us, tonight again, the procedures for the probe. The first eight steps were okay, then you transmitted a second message. It is split, and half garbled and the lines are jumped, and I'm not exactly sure what it says. We request a retransmission on that.

CC Wilco.

CDR We are a little bit behind on day 4. However with regroup the next day, we will have it all made up and we'll get back with it at noon tomorrow. As far as we could tell all stowage is still as specified, unless you find the changes as noted on A record. That's it for the status report.

CC Okay. We'd like to talk about the flight plan. We've got about 4 minutes left, Pete. How we saw things was perhaps; the first thing tomorrow is to just sort of pick up where we left off and work on through, with a couple of exceptions. There will be a press conference tomorrow and we figure lunchtime is about the best time to do it, at about 18:40, and there will be a trim burn coming at about 01:07 - about a 29-second burn time. Those, I think, are the only changes.

CDR Okay, the press conference is when?

CC Roger. It'll be about 18:40.

CDR On TV?

CC That's affirmative.

CDR Where do you want the TV?

CC Okay, wait a minute. There's been a change on the press conference time. It's 17:04.

CDR 17:04 in the wardroom, right?

CC That's affirmative.

CDR For the trim burn is when?

CC At 01:07. That'll be after dinner, in the evening.

CDR Okay. 29 seconds drive roughly.

CC That's affirmative.

CDR I figured I'd break the orb trying to dock the other night. I almost deorbited the thing.

CC (laughter) It's still there. We checked on the cassette you asked about. It is not on board. That container.

CDR Okay, I sure looked hard, but I'm glad it's not on board. Okay.

SL-11 MC-167/3

Time: 20:54 CDT 148:01:54 GET

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CC Okay. We would like - -
CDR I've located everything else.
CC We would like to know where you plan to
sleep tonight?
CDR I think we'll sleep in the command module
again. Our initial temperature is 94 now. Our biggest
source of heat is the water tanks. Man, do they store heat,
and they're really putting it out - by tomorrow morning.
CC Okay. We dropped out there for about 20
seconds. Can you repeat what you just said, Pete.
CDR Yes, we're going to sleep in the command
module tonight. Our biggest source of heat in the workshop
is that of the water tanks. It's just going to take them
a long time to give up their heat.
CC Okay, if you sleep in the command module
tonight, Pete, we need you to bring up one BMAG, and we'll
also need one of you to wear an OBS.
CDR Everybody just decided to sleep in the
MDA, Hank.
CC Okay, if you sleep out there, we'll need
to bring up an inverter. We've got to get some heat in the
command module.
CDR Okay, we'll be glad to bring up the heat.
CDR Which one do you want, BMAG or inverter?
CC Where you gonna sleep?
CDR In the MDA.
CC Okay. How about bringing up inverter 2?
CDR Okay. We'll do it right now.
CC Okay, wait a minute. Inverter 2 is already
on, I'd bring up inverter 1 with it.
CDR Okay.
CC Okay. We're about 20 seconds til LOS.
CDR - be water in inverter 1.
CC I didn't copy that. We're 20 seconds
from LOS. Vanguard's coming up at 47, and you'll have
your med conference there.
CDR Okay.
CC And Skylab, Houston. In regard to the
questions we sent up. We'd like you to put those on
the recorder.
CDR Okay. We'll also put our comments - -
PAO This is Skylab Control, 2 hours 5 minutes
Greenwich mean time. Space station is gone over the hill
from Hawaii. Vanguard in 19 minutes 50 seconds. Conrad
mentioned, while over Hawaii, that the workshop temperature
was now down to 94. The ground read up the time for the
press conference tomorrow - 17:04 Zulu, which computes out

SL II MC-167/4
Time: 20:54 CDT 148:01:54 GET
5/27/73

to be 12:04 central daylight time. The crew will be in the wardroom for that press conference, in which news men covering the Skylab mission will pass up questions to the crew. Trim burn is scheduled for 8:07 p.m. central daylight time tomorrow. And, as mentioned toward the end of that Hawaii pass, the medical conference for the day will be through Vanguard, on the upcoming pass in 18 minutes. Some other operational information will be passed up to the crew toward the end of that pass. At 2 hours 7 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-158/1

Time: 21:16 CDT 148:02:16 GET

5/27/73

PAO This is Skylab Control, 2 hours 16 minutes Greenwich mean time. Skylab space station now over the south central Pacific. Nine minutes away from crossing over the tracking ship Vanguard for the final conversation of the evening before the crew goes to bed. We're now looking at a change of shift briefing with off-coming Flight Director Neil Hutchinson one half hour from now at 9:45 central time in the Johnson Space Center Newsroom. Repeat, estimate press conference - change of shift press conference with Flight Director Neil Hutchinson one half hour from now, 9:45 central. Up again in 8 minutes for the final conversation with the crew of Skylab over Vanguard. At 2:17 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-169/1

Time: 21:25 CDT 148:02:25 GET
5/27/73

PAO This is Skylab Control 2:25 Greenwich mean time. Less than a half minute out from tracking ship Vanguard for the final conversation pass of the evening before the crew goes to bed. This pass will be shared by the flight surgeon in a medical conference. Turned back over to the operational people for the last portion of the pass, which is a total of 8 minutes 57 seconds across Vanguard. Therefore, the first 4 minutes or so will likely be silent. But we will leave the circuit up for a resumption of operational conversation. At 2:26 GMT standing by, this is Skylab Control.

PAO This is Skylab Control. We've had loss of signal through Vanguard. Apparently the entire pass taken up by the medical conversation. The surgeon did not revert back to the operational room. AOS Hawaii in 56 minutes. However, the crew should be in their rest period at that time. At 2:36 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-170/1
Time: 22:32 CDT
5/27/73

PAO Skylab Control at 3 hours 31 minutes 20 seconds Greenwich mean time. We've just had the horn signaling acquisition of signal in Hawaii, here in the Mission Control room. At the present time the spacecraft is on its 194 revolution about the Earth. We received just a few minutes ago the daily medical bulletin from Dr. Royce Hawkins. This is a bulletin that is put out after the private press conference, private conference between the doctor and the members of the Skylab II crew. This was held during the Vanguard pass at 9:25 and following 9:25 p.m. central daylight time tonight, the last Vanguard pass earlier on this revolution. The report is this: All three Skylab crewmen are in good health. They have all had some mild nasal stuffiness, which has been relieved with nose drops. They had no ill effects from the thermal environment of the orbital workshop during the days activity. Signed Dr. Hawkins. I might point out that nasal stuffiness was also a problem with some of the Apollo missions and appears to be in some way associated with the zero g condition. At the present time, we're expecting to get acquisition of signal in Hawaii. It is believed that the crew should be now asleep. They were expected to go to sleep about 10:00, and they are scheduled to wake up at approximately 6:00 a.m. tomorrow morning. And we will be staying up for the next couple of minutes to see what sort of data we're getting back from the Hawaii tracking station. We have about a 6 minute pass at Hawaii.

PAO Skylab Control. We are just now beginning to receive some data after acquisition of signal in Hawaii. And we can see that both of the coolants loops are still operating to attempt to cool down temperatures in that workshop. And of course, those coolant loops are also used for the various refrigeration and freezing equipment onboard the spacecraft. Both coolant loops are operating normally. Once the temperatures get down a little to conserve power, we'll work only 1 coolant loop. One coolant loop should be sufficient for most of the mission.

PAO Skylab Control. We are not yet getting any data because of number of things that are being asked by various mission controllers. We're not receiving any data on the temperatures. The last temperatures we did receive indicated that there was a range of temperatures from about 92 to 100 with many of them hovering right around the 94 degree area. That seems to be the condition as far as we know. We have not had a pass of course for about an hour. And if we do get some data from that area, we'll come up a little bit later and let you know what happened.

SL-II MC-170/2
Time: 22:32 CDT
5/27/73

This is Skylab Control, and I'll be going off now at 3 hours and 34 minutes and 56 seconds Greenwich time. We still have acquisition of signal. And we'll stay up and listen for any possible calls.

PAO Skylab Control. We are now getting some temperature data from the various temperature transducers in the orbital workshop area. And they show that temperatures have come down again. The highest temperature now being recorded anywhere in the orbital workshop, or in the spacecraft as a whole, internal temperatures as that in the experimental compartment ceiling 100 degrees even. That is the highest temperature reading any where in the spacecraft. The temperature readings now in the orbital workshop and some of its ducts in the 88 degrees level. So there is a range of temperatures. Still a number of them around 91 92 degrees. And it is quite clear that those temperatures are continuing to come down. This is Skylab Control. We have about 45 seconds left in our pass over Hawaii, and at that time we expect we will hear nothing more from the crew.

PAO Skylab Control, 3 hours 40 minutes and 9 seconds. We are just now going out of range of the Hawaiian tracking station, just now having passed over the horizon. We have lost signal in Hawaii and we do not expect to acquire signal again for another 24 minutes and at which time we'll acquire, we'll acquire signal at Vanguard tracking station off the coast of South America. This is Skylab Control at 3 hours 40 minutes and 29 seconds Greenwich mean time.

END OF TAPE

SL-11 MC-172/1
Time: 0001 CDT
5/28/72

PAO Skylab Control at 5 hours Greenwich mean time. Mission Control is very quiet. The only discussion going on during the past hour concerns general procedures. There is some discussion now of a 31-second trim burn to be performed later in day 4. They are still waiting for the proper data to determine exactly the length of that burn. Earlier it was estimated at about 29 seconds, but it will be about 31 seconds now. And that won't be determined probably until later in the morning. There have been no new problems on the Skylab. Temperatures continue to come down and now in the low 90s and we'll probably get some data at Guam. The next pass at Guam is in a little over 2 minutes. And everything is functioning properly. This is Skylab Control at 44 seconds after the hour.

END OF TAPE

SL-II MC-179/1

Time: 5:52 a.m. CDT, 148:10:52 GET

5/28/73

PAO Skylab Control at 10 hours 52 minutes and 32 seconds Greenwich mean time. At the present time the spacecraft is in range of our tracking station at Bermuda, and we expect to have a crew wakeup call at 6 a.m. central daylight time; that's a little more than 7 minutes from now. We'll have a crew wakeup call over Madrid, provided that the network is working properly. We did have some difficulty shortly - a short time ago with that. The crew wakeup call at 6 a.m. central daylight time will put the crew on a regular daily schedule of wakeup at 6 a.m. and going to sleep at 10 p.m. central daylight time. Immediately upon arising, the three crewmen will each have a blood sample drawn of the Scientist Pilot, Joseph Kerwin. The doctor will draw samples from the other two members of the crew and Paul Weitz will draw a sample from the doctor. These samples will be spun down in the centrifuge and then stored in the frozen compartment in the workshop for analysis upon return to Earth. This blood analysis will be performed on samples to be drawn four times during the first 28-day the Skylab mission. Today the crew will complete the rearranging of workshop equipment and prepare for more than 3 weeks of experimental research in medicine, materials processing, solar astronomy, Earth resources, and other corollary experiments. Activation or setting up of the space laboratory should be completed before lunch at 12 noon central daylight time. And during the hour lunch break the crew will conduct a live televised press conference, answering questions submitted by news people through Mission Control spacecraft communicator. After Dr. Joseph Kerwin has set up the necessary medical equipment, astronaut Paul Weitz will line the lower body negative pressure device as Dr. Kerwin observes his blood pressure and heart activity to learn more about changes in the cardiovascular system during long periods in space. This experiment will be repeated frequently during the coming months of Skylab activity. Astronaut Weitz will also ride the bicycle-ergometer, which measures changes in his blood pressure, heart rate, and metabolism as he exerts energy on the pedals of this stationary ergometer. Dinner is set for 6 p.m. central daylight time tonight, to be followed by additional rearranging and setting up of equipment for medical and Earth resources experiments. After daily status reports are completed and the regular crew medical conference is held in private, the crew is expected to retire about 10 p.m. central daylight time tonight. An interesting side note is that there will be some mass measuring done today - mass measuring of waste products, and the spacecraft communicator Dr. William Thornton, is principal investigator on that area. So the man who will be giving the wakeup call this morning is also a principal investigator on one of the first experiments to be performed - a medical experiment - to be performed here on day 4 of the Skylab mission. We expect to have acquisition of signal in

SL-II MC-179/2

Time: 5:52 a.m. CDT, 148:10:52 GET
5/28/73

approximately 4-1/2 minutes - a little less than 4-1/2 minutes. And at that time we should have a call from CAP COM or spacecraft communicator, Dr. Thornton, to the three Skylab astronauts. This is Skylab Control. We'll be staying up for the air-to-ground.

PAO Skylab Control. We have about 1 minute to acquisition of signal at Madrid, at which time we should have a wakeup call - that's exactly at 6 a.m.; that's 1 minute and 4 seconds from now.

PAO We have acquisition of signal at Madrid.

END OF TAPE

SL-II MC-180

Time: 06:02 CDT, 148:11:02 GMT
5/28/73

CC

Skylab, Houston; Madrid for 5 minutes, AOS.

CC

Skylab, Houston; AOS for 4 minutes.

SC

Good morning, there.

PAO

Skylab Control, Houston; at 11 hours 9 minutes Greenwich mean time. CAP COM, Bill Thornton, did place a couple of calls to the Skylab crew, closing out their rest period. We received no definite acknowledgment from the crew, or no discernable knowledge, that they were in fact awake and perhaps maybe wanted to sleep in until our pass over Carnarvon. We show Carnarvon tracking ready to acquire the Skylab space station at some 23-1/2 minutes from this time. We're now at 11 hours 10 minutes Greenwich mean time and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-181/1

Time: 6:32 a.m. CDT, 148:11:32 GET

PAO Skylab Control, Houston, at 11 hours 32 minutes Greenwich mean time. We're less than a minute away now from acquiring the Skylab orbital array over Carnarvon, and we'll stand by and monitor. We presently show an orbit of 239.6 nautical miles by 234.9 nautical miles for Skylab. We're now acquiring data from Carnarvon Tracking. Astronaut Bill Thornton still working as the CAP COM in the Mission Control Center; Don Puddy, our flight director.

PAO Skylab Control, Houston. Still no callup has been placed by CAP COM, Bill Thornton. Instead, we're - the indications are that we plan to let the crew awaken at a leisurely pace. We've got some 6-1/2 minutes remaining on this Carnarvon pass. The next station to acquire will be Honeysuckle, almost back to back, less than a minute between LOS and AOS.

PAO Skylab Control, Houston, at 11 hours 40 minutes Greenwich mean time, less than 3 minutes remaining on this Carnarvon pass. CAP COM Bill Thornton has not yet attempted to awaken the crew. Today's Flight Plan - The first thing following wakeup is a postsleep checklist. There's a reasonable amount of pad in that portion of the Flight Plan in terms of timing. We'll stand by and continue to monitor. At 11 hours 41 minutes Greenwich mean time, this is Skylab Control, Houston.

PAO Skylab Control, Houston, 11 hours 45 minutes Greenwich mean time. We're now under acquisition with Honeysuckle. Bill Thornton has not attempted to communicate with the crew as yet during this pass over Australia on the 199th revolution. We'll stand by and continue to monitor; and this Skylab Control, Houston.

PAO This is Skylab Control, Houston, at 11 hours 49 minutes Greenwich mean time. We've had loss of signal with Carnarvon. The next station to acquire, on the 199th revolution, will be Texas. Texas acquisition, some 27-1/2 minutes from this time. Meanwhile, in the Mission Control Center, we will have a changeover in CAP COM assignments. Henry Hartsfield replacing Bill Thornton at the capsule communicator's position. If we do not hear from the crew at the onset of the Texas pass, Hartsfield definitely plans to place a wakeup call while under Texas acquisition. At present, we have no definite indication that the crew is awake. We had no communication with them while passing over the two Australian tracking stations. We're at 11 hours 50 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-182/1

Time: 7:15 a.m. CDT, 148:12:15 GMT
5/27/73

PAO Skylab Control, Houston, at 12 hours
16 minutes Greenwich mean time. Less than 1 minute away
now from acquisition of Skylab through Texas tracking.
Meanwhile in the Mission Control Center we've had a shift
changeover of flight control teams. Flight director,
Neil Hutchinson who heads the silver team of flight controllers,
now taking the reins at the flight directors console.
And Henry Hartsfield is presently our CAP COM. We do expect
conversation with the crew aboard Skylab during this
stateside pass. We'll stand by and monitor. This is Skylab
Control, Houston.

CC Skylab, Houston. We've got you stateside
for 16-1/2 minutes. Good morning.

SC Hi there. Our hands are full of bloody
medical equipment, but we'll recover at 8.

CC Roger.

SC Hey, Bill. Joe just drew all three of us.
That went very smoothly.

SC CDR just finished shaving. Break-
fast is cooking and I think with a little luck at all
we might get on to a good routine. This is our first
real postsleep crack at the checklist, and we'll get a good
chance to see how long it takes us.

CC Roger. Copy.

PAO Skylab Control, Houston; 12 hours
19 minutes Greenwich mean time. That conversation - first
conversation of the morning with the Skylab crew. The
crew - Paul Weitz, Pete Conrad - Ralking - report being that
their blood samples were drawn on all three of the astronauts
by medical doctor scientist astronaut, Joe Kerwin. We'll
stand by - continue to monitor during this stateside pass.
We've got some 14 minutes remaining before we have loss of
signal.

PAO Skylab Control, Houston, at 12 hours
22 minutes Greenwich mean time. Skylab presently passing
over the states on the 199th revolution of the orbital
workshop. The crew aboard Skylab apparently having their
first breakfast inside the workshop. We had the report
from commander Pete Conrad that breakfast is cooking. We'll
stand by and continue to monitor. We've got some 10-1/2
minutes remaining before we have loss of signal.

END OF TAPE

SL-II MC-183/1

Time: 7:28 a.m. CDT, 148:12:25 GET
5/28/73

CC Skylab, Houston. We're about 30 seconds
from LOS. We'll be picking you up at Madrid at 37.

SC Roger.

PAO Skylab Control, Houston. We've had loss
of signal. The next station to acquire is Madrid - this in
approximately 3-1/2 minutes.

END OF TAPE

SL-II MC-184/1

Time: 7:37 a.m. CDT, 148:12:37 GET

5/28/73

CC Skylab, Houston through Madrid for 7 minutes.
SC Hi there.
CC Hello.
SC I've got a question, Henry. According to my
checklist last night - if it is Hank.
CC Roger.
SC I turned off the - opened the circuit
breakers down in the workshop to the waste tank vent heater.
Now we're going to dump some urine in that this morning -
urine bags. I turned them back on for now though. Is that
an off at night, on in the morning kind of thing?
CC Let me take a look at that, Paul.
SC Okay; it was written in. It was a pen and
ink change to my checklist. Anyway, as of right now they're on.
Also, we've got almost a full water tank to the command module
plus Pete wanted me to ask you about. I guess somewhere in his
procedure he closed the water tank release valve.
CC Roger. Copy. Let me look into that.
SC Okay.
CC Skylab, Houston. Answer on the vent heaters
first. We plan to fly with the vent heaters off and the circuit
breakers open. And we'll monitor the waste tank pressure to
tell how the screens are doing. And I'd like to remind you, you
also have panel 800 to keep up with that; 0.09 is the magic number.
SC Okay.
SC Henry, sometime today have the stowage
guys look something up for us. Will you, please?
SC How many wash cloths a day can we use, and
how many towels a day?
CC Okay; how many wash cloths and how many
towels. I'll get that for you.
SC Yeah, you can tell we're starting to live
in here now.
PAO Skylab Control, Houston. That's Pilot
Paul Weitz speaking with Henry Hartsfield at CAP COM in the
Mission Control Center.
SC Houston, how do the temperatures look
this morning? Are they still coming down?
CC That's affirmative. It looks like they've
dropped another 5 or 6 degrees over night. Some of those
structure temperatures that were up around 120 like the ceilings
are down to around 92 to 93 now.
SC Have your thermal people plotted a trend?
Do you know where it's going to level off at?

SL-II MC-184/2

Time: 7:37 a.m. CDT, 148:12:37 GET
5/28/73

CC Say again, Paul.
SC Where is the temperature going to level
off at, Houston?
CC Oh, okay. Let me get an answer on that.
PAO That's Paul Weitz inquiring about the
cabin temperatures.
CC We expect the temperatures to stabilize
out somewhere around 75 degrees.
SC Thank you.
SC Say, Hank, we're settling in pretty good.
Of course, we asked you a question on the towels. Most every-
body cleaned up today, shaved, and I wanted to advise you on all
the urine that we've collected so far. It's been in the com-
mand module. And all those urine samples are - I'm guessing -
probably 70 percent air. Starting today is the first good urine
bag that we've been able to install with a full vacuum pull on
them, so I expect to see things approve on that with tomorrow's
sample. If it weren't for the fact that we had such a spectacular
view out of the wardroom window, which we didn't open until
yesterday evening late, I'd think we were back in Houston simming.
CC Roger. Copy.
SC And right now we're over Italy, and weather
is spectacularly clear. We can see just about all of Italy from
one end to the other, all clear across the Mediterranean. Going
over some ground I've never seen before.
CC Roger. Copy. And we're just about LOS
now, Pete. And we'll be coming up on Carnarvon at 16.
SC Okay. Hopefully, we'll all be done breakfast
by then and we got a few other questions for you and we'll
try working the probe and whatever else we need to do.
CC Okay, I'll try to have an answer on the
CSM water then.
PAO Skylab Control, Houston, at 12 hours 46 min-
utes Greenwich mean time. We've had loss of signal with Madrid.
The next station to acquire will be Carnarvon in some 36 minutes.
Meanwhile, we've heard from the crewmembers aboard Skylab,
sounding in good spirits. The blood samples were taken earlier
this morning by a medical doctor, Joe Kerwin. The crew in-
quired about cabin temperatures and got a report from CAP COM,
Henry Hartsfield, that they are steadily dropping, expected to
flatten out at some 75 degrees. And following the postsleep
checklist, the Skylab crew this morning will complete the
activation items carried over from yesterday. These include
such things as relocation of equipment, items such as boxes -

SL-11 MC-184/3

Time: 7:37 a.m. CDT, 148:12:37 GET
5/28/73

large boxes, portable fans, a vacuum cleaner. A seal will be taken off in the wardroom window. The shower will be activated, and they will properly prepare their photographic equipment, such things as lenses and cameras mounted in proper places. Also, the return water containers, these are the water containers placed in the command module, will be filled in the workshop and returned to the command module for that time when the crew separates and returns to Earth. We're at 12 hours 47 minutes Greenwich mean time, and the next station to acquire will be Carnarvon. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-185/1

Time: 08:15 a.m. CDT, 148:13:15 GMT
5/28/73

PAO Skylab Control, Houston; at 13 hours 15 minutes Greenwich mean time. Now approaching Carnarvon acquisition. This being a short pass - We now show Skylab on it's 200th revolution with an orbit of 239.6 nautical miles by 234.9 nautical miles. We'll stand by and monitor conversation.

CC Houston. We're about 30 seconds LCS Carnarvon and we've got some answers to your questions. We'll tag up again at Goldstone at 53.

CC Skylab, Houston. How do you read?

CC Skylab, Houston. In the blind, about 10 seconds from LOS. Goldstone coming up at 53.

SC Roger, Houston.

SC Sorry. I answered you three times on B channel.

CC Roger.

PAO Skylab Control, Houston; at 13 hours 18 minutes Greenwich mean time. We've had loss of signal through Carnarvon; receiving only a brief acknowledgment from commander Pete Conrad aboard Skylab to the calls of Henry Hartsfield. It turns out Pete reported shortly before loss of signal that he was replying on B channel, which is the channel provided for tape dumps. We expect acquisition with Goldstone some 34 minutes and 30 seconds. To quickly go over the morning's activities thus far, the crew awakened at approximately 12:16 Greenwich mean time following a call from Henry Hartsfield over Texas. They sounded chipper and appeared ready to move into some semblance of mission normalcy, performing the scientific and medical experiments onboard for the next several weeks. Blood samples were drawn on all three crewmembers by medical doctor, Joe Kerwin. They had breakfast in the wardroom. Most of the morning will be spent by the Skylab crew checking out the - or closing out the activation items. These include such things as relocating the equipment like boxes, portable fans, vacuum cleaner. The seal will be taken off the wardroom window. The shower will be activated and photographic equipment will be prepared properly for later usage. The returned water container will be filled in the workshop and taken into the command module for later use during entry. We now show 13 hours 20 minutes Greenwich mean time. The next station to acquire again is Goldstone. That's some 33 minutes away. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-186/1
Time: 08:52 CDT, 148:13:52 GMT
5/28/73

PAO Skylab Control, Houston; at 13 hours
52 minutes Greenwich mean time. The ah - Skylab space
station now on its 200th revolution with an orbit of 239.2
nautical miles by 234.7 nautical miles. Standing by now
for acquisition through Goldstone.

CC Skylab, Houston; stateside for 17 minutes.
SC Hi there, Houston. Say I've got a mystery
question for you.

CC Okay. Go ahead.
SC I'm suppose to fill three transfer water
bags to put in the command module. They're originally stowed at
A-9, and I can't find them on any stowage list, including A-9.
A-9's had kind of a rat's nest, so I didn't bother to look in
there, but I'm not sure they're aboard. Can you put a tracer on
what happened to those?

SC You know what I'm talking about?
CC Roger. We're just talking about it. I
think those are in the workshop, F507-A-9.
SC S, what?
CC F507.
CC That's under the water purification rack,
I think, Pete.

SC Oh, that A-9. Very good.
SC Solved the mystery. Good thing I didn't
look very hard.

CC Hey, we've got a few things that we'd like to
go over right here, if we could now, Pete.

MCC That's it.
CC Okay. I guess the first question is concerning
general message 0316 Charlie. We want to know if you put
those answers on the tape recorder last night. That was the
five questions from bioned.

SC Well, we're going to have to trace the
message down. I - Wait a minute.

PAO That's Pete Conrad talking with CAP COM,
Henry Hartsfield, during this stateside pass.

SC Yeah, we're going to have to trace it down.
Everybody passed the buck. Joe said it was for somebody
else, but I didn't see it, Paul hasn't seen it.

CC Okay. Just as we were signing off last
night, we got acknowledgment that you were going to put it on
tape. We've been having trouble with the tape, is the reason
we're asking and want to make sure it did get on there. In
regard to the water question you had. The relief valve should
remain off in the command module. We would like for you to
dump the water tonight after dinner. And that dump should be

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in accordance with general message 314. We had sent an earlier message, 313, in regard to that. But, we've changed configurations. So, 314 is the message you should use for the water dump.

SC

Okay. Do we have that message onboard, now?

CC

Roger. It should be onboard.

CC

We're also trying to track down our problem with the tape recorder - I mean the teleprinter. Last night you reported a problem with the docking probe message. Was a portion of the message mission - missing? Or was it split up?

SC

No. It printed about 2/3 of the way across it. It ended the sentence. But then the last third was really the beginning of the sentence. Then it was about a half a line apart. Very confusing.

SC

Roger. Have the teleprinter messages been printed evenly so far, or is it kinda alternating between light and dark printing.

SC

It was pretty good this morning.

CC

Roger. Copy. And in answer to the question on the towels and washcloths. That information is on page 5-2 of the stowage book. It says basically, that you're allotted 1 towel per day and 2 washcloths per day. Per man.

SC

Okay. Thank you. Pete's looking at the messages. The PLT, I tried but despite my promise, I couldn't get the apricots down last night. So, if you'll pass that down to the - well whoever cares.

CC

Roger. Copy. May we assume that you're drying the second unit, now?

SC

Yeah. That's in process. Drying has not yet started.

CC

Okay. And we'll get the third one tonight. And ah - I guess we've got a general question here. We didn't tag up last night, if it's possible, we'd kind of like to get an idea of about where we are in the Flight Plan.

SC

Okay, Hank. The CDR's essentially all done to regroup. Joe and Paul ought to tell you where they are.

SC

Okay. If you'll look on page B-4, I'll pick you up with what I've accomplished, Hank.

CC

Okay. I'm looking.

PLT

Okay. The PLT has done trash bags, fire hose, condensate module, electric panels, wardroom window, vacuum cleaner, and that's it. Every thing else on that page is subsequent or still open and are in work.

CC

Roger.

CDR

Okay, Hank. On the command module, appears a third LiOH canister, to day 4, which is used, I presume

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you want us to throw that away?

CC That's affirmative.

SC Also, Hank, that circuit breaker you wanted me to check on 202 for a solenoid dump is closed, and was closed.

CC Roger. Thank you.

SC Hank, unfortunately I got every message but 313 and 314. And ah - I've got 315 - -

SC 413, 414-B - -

SC 411-A. Send me 314 again, and then I think we'll be all right.

CC Okay. Would you like to have accounting of what you should have up there?

SC No, don't confuse me. I'm confused enough right now. (chuckle). Starting tonight, we've got to get organized on that. These message numbers don't make sense to me, anyhow. And I always sit here and scratch a list of a lot of stuff.

CC Okay. We're - we're looking at that too, Pete. We think there's got to be a better way here. We're also concerned that we don't have a way to check to make sure the messages are getting up. We send them and we're not sure you're getting them all, especially since you've been having a few problems with the teleprinter.

CC We will send you 314 again.

SC Okay.

SC Yeah. It's taking us awhile to get the hang of things. I'd say, this morning with the M110 and everything, it probably took us 45 minutes to an hour longer. But, we're finding out things that are costing us time. Number 1, Rusty loses his spec to me. The water system does, in fact have gas in it. And if you go to 7-1/2 ounces of water in a coffee thing and it won't handle it. You've got to let air out and mess around with it. So, food handling, I think it's taking us a little longer than normal, right now than on the ground and I don't think that's to be unexpected. I think we're getting a little bit better hang on it, as we get better organized. We all had to refresh our memories today as we went through all the waste management stuff exchanging filters, I mean changing uring bags and so forth. So, I think we've got some learning curves to go yet, here in zero g. There are places that not having restraint is kind of bothering us a little bit. As an example, we're all using triangle shoes and it doesn't work too well with those straps in the waste management compartment. Your feet don't tend to stay under the straps and we can't fasten the straps. They're too stiff to make the velcro work on them. So, you're going to work off the wall or the ceiling. Just little areas like that. As a rule, moving the big stuff and everything is - -

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SC - - just like - -
CC Peta, we lost the last part of that trans-
mission. We handed over sites right in the middle of it.
SC Okay. Where was I?
CC Well, we got to the part where you said
you we're having trouble with the shoes in the WMC.
SC Yeah. You can't use those foot restraints
in the waste management compartment when you have triangle
shoes on. The material's so stiff that even if you hook them
over to make them big enough to put your feet in, the velcro
won't stay stuck and you just - you'd have to apply pressure
to hold a little friction in there. They just - They won't hold,
so you slip out of them. So we're ricocheting off the walls
in there. We'll probably work something out here a little
bit later. I would say that big boxes - All that big gear,
it's no problem at all to handle any of that. As a matter
of fact, most of the food boxes were done one man. So,
big stuff actually went quicker than expected. It's just a
lot of this little stuff getting anchored, doing it, collecting
it, and figuring out where to go next. And I think we'll pick
up as we go along here.
CC Roger. That was a good rundown, Peta.
CC SPT, what are you doing for us? - -
SC We've got a lot of other things that are
not reflected in the workload, I'm sure. If you can imagine,
it's always been said on every flight. You really generate a
lot of trash. And that command module was a sight to behold.
Now, Joe spent the better part, for a couple of hours yesterday
just cleaning the command module up. And it still needs some
more, you know, just a little bit more work. But, the command
module is just about in the right configuration now. And
we did dispose of an awful lot of trash last night. We got
3 large plenum bags. We haven't got those below, yet.
But, we're talking about waste management. We almost thought
we'd jammed the trash airlock yesterday. The bag that had
the UCTAs in it really expanded. And we were just flat
lucky to get that one out of there.

END OF TAPE

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CC Don't scare us like that.
SC Don't scare you. It scared us worse than it
scared anybody else. So, we're - we're taping our plastic
urine bags because they were not evacuated. Just as a rule,
I think we're going to tape things, and we're only going to use
about half the volume of the trash airlock, just to be
on the safe side. We had a couple of other bags that were
pretty firm shoving them out, and that really makes me
nervous. So that may change the trash bag usage a little
bit.

CC Roger.
CC SPT, could you tell us what you're doing
this morning?
SC The PLT is doing the portable water tank,
his favorite task.

CC Roger.
SC And right now he's trying to figure out
how to catch all the parts out of the ratchet wrench, which
disassembled itself, and reassemble the ratchet wrench

CC Copy.
CC Pete, on a noninterference basis, I'm
wondering if you could put the TV somewhere and turn it on like
you did yesterday? We'll just record it as we can.

SC Okay, it's set up for the press conference.
I'll go - - You want it now?

CC Not now.
SC Say again.
CC We don't want it exactly right now. We're
not prepared to get it now, but we'll try to get it next time
around.

SC Okay, it might be a good thing because the
wardroom window is pretty bright, and I gather the press
conference will be at daytime and we may have to draw the shade
(garble), but you can tell us what you think we can do to (garble)
picture next pass.

CC Okay.
CC Could you tell us where the SPT is, Pete?
SC He - he's doing his urine drawer and, he
has been handling most of the M1 temps.

CC Roger. Could you give us an idea of his
status on his portion of the activation?

SC He's coming to give it to you right now.
CC Skylab, we're about 30 seconds from LOS
and we'll be coming up on Madrid at 15.

SC We lost the retainer ring off the ratchet
handle switch that makes it switch between tightening and
untightening. And we may have lost the ratchet handle for good

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Time: 09:07 a.m. CDT, 148:14:07 GMT

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because we got all the parts but the retainer ring and I suspect it broke.

CC

Roger. Copy.

PAO

Skylab Control, Houston, 14 hours 11 minutes Greenwich mean time. We've just had loss of signal. Next station to acquire will be Madrid in approximately 4 minutes. During the stateside pass we've heard mainly from commander Pete Conrad who gave a very garphic rundown of what life was like in the workshop. The discussion centered in part on the teleprinter operation and he described such things as - as the differences he found in food handling in the wardroom in space versus simulations on the ground. We'll stand by and keep the line open and pick up Skylab as we next acquire over Madrid.

END OF TAPE

SL-II MC-188/1

Time: 09:13 a.m. CDT, 148:14:13 GET

5/28/75

PAO Skylab Control, Houston; at 14 hours
15 minutes Greenwich mean time, standing by now for acquisition.
CC Houston through Madrid for 9 minutes.
SC Okay, Hank. We'll be with you in a minute.
CC Okay. And for information only, it looks
to us like the coolant loops are settling down, and we're going
to be commanding back to single-loop operation. We'll be putting
the primary loop on inverter 1; turn secondary loop off; and
we'll be using switchover logic 2, and turning switchover
logic 1 off. As you recall, we had some trouble with primary
loop in the unmanned phase. It may switch over; if it does,
you shouldn't get a caution and warning. But we'll keep you
advised.

SC Houston, SPT.

CC Go ahead.

SC Okay, my status says that yesterday I
completed thru ambient food transfer, which took about 3 hours
to accomplish. And, this morning after I cleaned up M10 and
finished my urine drawings and all that stuff. I'm going to
start on body mass measuring device activation and just try and
work through it.

CC Roger. It sounds like a good plan.
Thank you, Joe.

PAO Skylab Control, Houston; at 14 hours
22 minutes Greenwich mean time. About 2-1/2 minutes remaining
on this pass over Madrid. We now show an orbit for Skylab
of 240 nautical miles by 234.8 nautical miles. We will monitor
the balance of the pass.

CC Skylab, Houston. We're about 10 seconds
from LOS; Honey-suckle at 01.

PAO Skylab Control, Houston; at 14 hours
25 minutes Greenwich mean time. We've had loss of signal
now with Madrid. The next station to acquire will be Honey-
suckle, some 36 minutes from this time. Meanwhile, to go
over what has occurred, thus far this morning the crew awakened
at approximately 12:16 Greenwich mean time over Texas. Shortly
after wakeup, blood samples were taken on all three crewmembers
by Dr. Joe Kerwin. The crew then had their first breakfast
in the wardroom of the workshop. Some of the food preparation
took longer than in simulations, Commander Pete Conrad reported.
Conrad also gave a graphic description of ease and difficulties
by which some things are performed in the workshop. All three
crewmembers have passed along to Mission Control their status
on where they are in the activation checklist. We're at
14 hours 26 minutes, and this is Skylab Control, Houston.

END OF TAPE

SL-II MC189/1

Time: 10:00 a.m. CDT, 148:15:00 GMT

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PAO Skylab Control, Houston, at 15:00 hours
Greenwich mean time. Coming up now on acquisition with
Honeysuckle. Standing by at this time for conversations
between CAP COM, Henry Kartefield, and the crew aboard Skylab.

CC Skylab, Houston through Honeysuckle for
5-1/2 minutes.

SC Roger, Houston.

CC Okay, we sent up a message this morning.
Message 4015 regarding CBRM number 15. We'd like for you to
disregard that.

SC Okay, that's one we happened to get.

SC And I will disregard it.

CC And for your information, we're going
to have live TV at Goldstone on this pass coming up here
shortly to take a look at our settings.

PAO Skylab Control, Houston. About 3 minutes
remaining on this pass over Honeysuckle.

SC Still with us, Hank?

CC Roger.

SC As you can tell, we got the most important
thing running now, the music. And that's speeding everything
up.

CC Hey, that sounds great.

SC We're getting caught up; slowly but surely.

SC Got a comment for you on the iodine tablets
for the CM water bags to pass on to the next flight. The first
one just disintegrated into powder and disappeared into the
atmosphere. They've apparently got very, very dry. It may
have been as a result of the heat in the vehicle, but they have
to be extremely careful with them. We have to iodine our water
because we only had 3.2 parts per million and we need 4 not
to do it.

CC Roger. Copy.

CC Hey, Pete. After y'all got your heads
together, did you ever decide whether you answered that message
316 or not? On the tape recorder?

SC On 316. Wait till I find it.

CC That was the one we sent up last night
with the five questions from BIOMED.

SC Is that the BIOMED?

CC Roger. There were five questions
that came up on the teleprinter last night that we didn't
get to in the evening status report.

SC Okay.

SC Hey, Hank. I can answer the questions
for myself, or do you want me to put them on tape?

CC Well, got about 20 seconds to LOS,
Pete. You could put them on tape or we can get them over
stateside. We should be coming up on Hawaii at 21. There's
a possibility that we won't have voice at Hawaii. If not, we'll

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Time: 10:00 a.m. CDT, 149:15:00 GMT
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get you at Goldstone at 29. And --

SC Okay, we'll put it on B channel.

CC Okay.

SC Bye. See you at the states.

PAO Skylab Control, Houston, at 15 hours

7 minutes Greenwich mean time. We've lost acquisition through Honeyuckle. The next station to contact, Hawaii. However, there is a possibility of no voice communications this pass with Hawaii. Hawaii reported that they had lost drive in their USB antenna and were earlier uncertain as to whether or not they would be up for this pass. However, network has just reported that the drive has been fixed. So we can expect voice contact with the crew through Hawaii. Also, CAP COM, Henry Hartsfield, advised the crew aboard Skylab that there would be live television during this Goldstone pass. We expect live television to be fed into the Mission Control Center on this pass over Goldstone. This in part would allow an opportunity to check the lighting through the wardroom window for the events scheduled on the next stateside or over the next stateside pass where the crew will answer questions from news media. We're at 15 hours 8 minutes Greenwich mean time, and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-190/1

Time: 10:20 a.m. CDT, 148:15:20 GET

5/28/73

PAO Skylab Control, Houston; at 15 hours 20 minutes Greenwich mean time. Less than a minute away now from Hawaii acquisition of Skylab. Earlier, Hawaii had reported that they had lost drive in the USB antenna at that station. However, a subsequent report indicates that that antenna is back on the line. We do expect a voice contact with the crew over Hawaii. Also, we do expect live television to be fed into the Mission Control Center on the Goldstone pass, following Hawaii. We're approximately 8 minutes 40 -

CC Hawaii in 7 minutes.

SC Roger, Houston.

CC Skylab, for information, you'll be pleased to know that ATM is three-fourths through with their ground commanding checkout, and they're on schedule, and so far no anomalies.

SC That - that's super.

CC And also, since we've got this bird squared away in solar inertial, we haven't used any TACS for the last 20 hours.

SC We did a double cheer because I'll tell you there's nothing that gives you a bigger fright than be standing down here in the wardroom and have that TACS go off. It sounds like somebody's banging on the bottom of this thing with a sledge hammer.

CC Roger.

SC Say, I don't know what kind - where are your temperature sensor are, but it's obvious that that sail does have a wrinkle in it. We can - The walls have cooled off enough that I can almost plot the shape of that sail by running my hands along the wall. And right where the iodine - you know, the water iodine container 505 is mounted on the wall, that's a pretty hot spot over there. It's slightly triangular shape, as we indicated. And if you look at the television pictures, I think you can see where the sail didn't quite unfold there. The three front water tanks are still holding heat right above the airlock. But the back water tanks have noticeably cooled down. They're still hot, but that tap is coming down pretty rapidly.

CC Roger. Copy. And we saw that triangle shape at the rear of the sail in the TV.

SC I think we're going to have to live with that. But if the temperatures keep coming down the way you say they are, why it's going to get real pleasant in here. It's not really bad now. I wouldn't want to be riding the bicycle or anything, but it's not bad just whistling around doing the work we're doing.

CC Roger.

SL-II MC-190/2

Time: 10:20 a.m. CDT, 148:15:20 GET
5/28/73

PAO Skylab Control -
SC - were you still - I guess the schedule
still shows a 92/171 this afternoon?
CC That's affirmative.
SC Well, Dr. Kerwin suggestion it is pretty
warm down here yet. And he is proposing that the 92 be a
one-step only, at 30 millimeters, and the 171 be baselined for
5 minutes the first step, with an optional 5 minutes of the
second step. And let it go at that and see what kind of
results we get.
CC Okay; we'll work that.
SC All right.
CC That's what he said. Sorry about that.
CC Skylab, Houston. We're about 30 seconds
from LOS. We'll be coming up on Goldstone at 30 for a data
recorder dump and live TV.

END OF TAPE

SL-II MC191/1

Time: 10:28 a.m. CDT, 148:15:28 GMT

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PAO Skylab Control, Houston; at 15 hours 29 minutes Greenwich mean time. We've had loss of signal with Hawaii. Less than a minute away now from acquisition through Goldstone, where we expect a live television transmission. This is Skylab Control, Houston.

CC Skylab, Houston through Goldstone for 8 minutes, and we've got a picture.

SC Roger.

CC Pete, looks like there's a bright light over your left shoulder that's washing out the picture a little bit.

CC Yeah, right there. It's a bright spot, looks like around the top center.

SC Did that do it?

CC Okay, it's looking a little better. It's still pretty bright at the top left of your picture, which is over the left, top left of the wardroom window.

SC Houston, SPT.

CC Go ahead.

SC The BMFD is activated. No problems and ask Bill or whoever is there to look up the weight corresponding to the following time: 6.82289. I gave it a one whiz to see how much I weighed. I haven't got the cal card out yet.

SC I got it right down here, Bill. And, the preliminary guess it looks as if we're going to need the shoulder straps. And we are gonna need to fix them there pretty good.

CC Roger, understand. 0.82289.

SC The first digit was a 6.

CC Roger. 6.82289.

SC That's right.

CC Okay, you moved the camera a little bit and the lighting is a lot better.

SC I just got the card out, Hank, and that gives him 178. He's got his triangle shoes on and his pockets are full of watches and all that and his clothes. I guess, probably pretty close.

CC Roger.

CC Go ahead.

CC Skylab, Houston. Are you - Do you want to take a look at it with the wardroom window open and see what happens?

SC It's pretty bad, Hank.

CC Wow, that wiped it out.

SC Give it again.

CC Okay, it's still pretty much - stops it down to all you can see is a bright light and darkens up the wardroom. So I guess we're gonna have to leave that shut.

SC Say, who are we press conferencing with - what's the general nature of it for? It's kinda early, isn't it?

SL-II MC-192/1

Time: 10:40 a.m. CDT, 148:15:40 GMT
5/28/73

SC Skylab, Houston through Bermuda for 6 minutes.
SC Roger, Houston.
CC And, Skylab, if you haven't already done
so, we'd like to get the TV camera off until just prior to
Goldstone.

SC It's off.
SC Hey, Hank. You still with us?
CC Roger.
SC I gave you the answers to 316 on B channel.
CC Roger. Thank you, sir.
SC You're welcome.
SC What are we over now? It sure is cold
down there. It's got snow on the ground and a lot of ice in
the water.

CC Looks like you ought to be coming up over
Labrador.

SC It's very interesting. Let me give you a
little observation now. I can see icebergs that are big
enough to see from here. They're sticking out like a sore
thumb.

SC Could you copy that, Hank?
CC Roger.
PAO Skylab Control, Houston; 15 hours 48 minutes.
We've heard a description from - -

SC The Sun angle's right also. I can see
a lot of ship wakes and if I catch them just right in the
Sun, I can see the ship itself for a second and then it's
gone again.

CC That's a keen eyes.
SC The PLT and the SPT just said they wish
they had time to gawk out the window. I think I better go back
to work. I'm getting a message.

CC (Laughter) Roger. We're about a minute
from LOS now. We'll be coming up on the Canaries at 52.
PAO Skylab Control, Houston. We've been
listening to the description by commander Pete Conrad as
he looks out the window in this northerly part of the orbit
in a vicinity of 50 degrees north.

END OF TAPE

SL-II MC-193/1

Time: 10:50 a.m. CDT, 148:15:50 GMT
5/28/73

CC
10 minutes.

Skylab, Houston through Canaries for

SC Roger.
SC Hey, Henry. We're passing over a bunch of
medium small islands. Do you know what they are?

CC I will guess that to be the Azores.
SC It's a cloudy day there then. Henry,
you can sure see the contrails from up there. They stand out
like a sore thumb. Also, apart from Asia, we'll probably take
a picture of it and maybe show it to you on TV. Right smack dab
in the middle of the wardroom window, we've got a piece of ice.
It appears to be on the inside of the outer pane, slightly smaller
than a dime, and it's got the typical frosted finger edges to it,
which waxes and wanes as we go in and out of daylight.

CC Roger. Copy.
SC And it was there when we went ahead and
put the window cover on. I think it's been there since the
thing got in orbit.

CC Roger.
SC Let me make another observation, Hank.
Speaking for myself, is that having trainers of as high
fidelity as we did sure helps when you get up there. I'll
tell you, it's worth all the time, and I think the money that
we put into it, because it's sure making this thing go.
It's not going too fast anyway, but it'd go a whole lot slower
if we hadn't had the gear of work with it that we did.

CC Roger. Copy.
SC Okay. I can see the point of Spain here
and the Straits of Gibraltar. And now that I gave the F-CDR
ration about gawking out the window, it worked. He moved and
now I'm at the window. And it also appears that for several
hundred miles along the west coast of Africa, there's a lot
of stuff in the air. It looks like they may have had some
pretty good sand storms out there recently.

SC Hank.
CC Rog-o.
SC Okay, also there's a group of islands off
the west coast of Africa that we're coming up on, the wind
is prevailing out of the north. And the (garble) behind them
are really something. They stretch out from what must be 200 to
300 hundred miles down wind of them.

CC Roger. Copy.
PAO That's Paul Weitz describing the west
coast of Africa as Skylab passes overhead, under acquisition
with Canary tracking.

SL-II MC-193/2

Time: 10:50 a.m. CDT, 148:15:50 GMT

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CC Skylab, Houston. We've been talking about the ice in the window, and, you know, as part of our power savings, we didn't turn the wardroom window heater on during activation. But we think that if we open the vent now and try to drive it out, we may wind up in a worse situation such that we'd have to keep that heater on all the time. So as long as it stays small, about the size of a dime, we're recommending that we just leave it as is.

SC

Okay.

CC

Skylab, Houston. One minute from LOS.

Honeysuckle at 37.

END OF TAPE

SL-11 MC194/1

Time: 11:36 a.m. CDT, 148:16:36 GMT
5/28/73

PAO Skylab Control, Houston, at 16 hours 36 minutes Greenwich mean time. Now approaching acquisition with Honeysuckle in less than 1 minute acquisition time with Honeysuckle. We presently show Skylab on the 202 revolution with an orbit now of 239.9 nautical miles by 234.5 nautical miles. We will stand by for conversation as it develops between CAP COM, Henry Hartsfield, and the crew aboard Skylab.

CC Skylab, Houston through Honeysuckle 9 minutes.

SC Roger.

CC Skylab, Houston for info. No response required. We got our gyro drifts squared away in the X and Y axes and we're turning off the third gyros on both those axes. Our configuration will be X1, X2 and Y1, Y3. And your panel configuration is ok.

SC That's very interesting, Houston. What seems to have been the problem? What solved it?

CC There never was a problem, Joe. The problem - you know we were out of solar inertial, so we never could get any good drift rate information on the gyros. Now that we've been in the solar inertial, we've really got the drift nailed down and got them corrected - compensated.

SC Okay.

CC Stowage workshop activation. Go ahead, workshop.

PAO Skylab Control, Houston. We've got about 3-1/2 minutes remaining on this pass over Honeysuckle. The next station to acquire will be Hawaii in approximately 14-1/2 minutes.

PAO Skylab Control, Houston. About 2 minutes remaining now on this pass over Honeysuckle. Very little conversation with the crew at this point. We'll stand by and continue to monitor.

CC Skylab, Houston. We're about 40 seconds from LOS. We'll be coming up on Hawaii at 57. And if it's convenient, we'd like to get a count on how many lights you have on in the workshop.

SC We'll try and have it for you by Hawaii.

CC Okay.

SC Seventeen. Over.

CC Understand 17.

CC PLT, Houston. Are most of them on low?

SC Without looking I'm not sure, Houston.

CC Okay, don't bother now.

PAO Skylab Control, Houston, at 16 hours 47 minutes Greenwich mean time. We've had loss of signal with Honeysuckle. The next station to acquire in approximately

SL-II MC194/2

Time: 11:36 a.m. CDT, 148:15:36 GMT
5/28/73

10 minutes will be Hawaii. Meanwhile, the Skylab crew is proceeding to finish off the activation process this morning to make the Skylab habitable and operational. Early this afternoon medical experiments M92, 93, and 171 will be activated and calibrated for use. The lower body negative pressure device, the vectorcardiogram system, metabolic analyzer, and the ergometer system are the principal equipment involved. Mainly, this activation calls for scientist pilot, Joe Kerwin, to turn knobs and watch gages, and activate the electronics for use. Later this afternoon experiments M171 and 92 will be put into operational use with Paul Weitz acting as a subject and Dr. Joe Kerwin as the observer. We presently show ambient cabin temperatures inside the workshop at approximately 88 degrees. We're 8-1/2 minutes away from acquisition with Hawaii and at 16 hours 48 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC195/1

Time: 11:55 a.m. CDT, 148:16:55 GMT
5/28/73

PAO Skylab Control, Houston, at 16 hours
56 minutes Greenwich mean time. Standing by now for acquisition
with Hawaii on the 202 revolution of the orbital workshop.
The Skylab crew will answer questions from the press at
Goldstone acquisition at approximately 12 minutes 30 seconds
from this time and this will be carried into Houston via live
television. Standing by now for Hawaii acquisition.

CC Skylab, Houston through Hawaii, 9 minutes.

SC Roger.

CC Skylab, Houston for the CDR.

SC Go ahead.

CC Okay, Pete. Just want to give you a

rundown on what we are going to be doing at Goldstone. We
have a list of questions that have been submitted by the
newsmen here at Johnson and when we strike up at Goldstone
there, I will just jump right in and start reading the questions
verbatim and let you guys have at answering them.

SC Okay.

CC Skylab, Houston. Since it's lunch time
now and you guys are starting to take a break here, we'd like
to get a tag up on the activation.

SC Okay, Houston. The PLT is struggling
with the portable fans, and he's not saying but he's getting
there. The SPT finished camera activation. Still theading
and I had some difficulties, which I will document on channel
B.

CC Roger.

SC And the CDR is on the time line.

CC Roger. Copy.

SC As always.

SC It will be after lunch, Hank, before I
get to (garble) that plenum bag stowage, and I think we will be
pretty well on the time line.

CC Roger. Copy. Good point.

SC The film thing is very weird. The first
couple of transporters would thread in various forms and then
jam and we had a heck of a time getting it going. I'm
not sure that it wasn't that the film was hot or been very
hot. And that film vault is still one of the warmer things
up there for some reason.

CC Roger. Copy.

SC We'll give you more specific details on
B channel.

CC Skylab, Houston; 30 seconds from LOS.

We'll be picking you up at Goldstone at 09 with TV.

SC Okay.

SL-II MC195/2

Time: 11:55 a.m. CDT, 148:16:55 GMT

5/28/73

PAO Skylab Control, Houston, at 17 hours
7 minutes Greenwich mean time. We've had loss of signal
with Hawaii. We should acquire with Goldstone in less
than 2 minutes at which time the questions from newsmen
will be asked of the Skylab crew and this will be coming
to us via live television.

END OF TAPE

SL-II MC196/1

Time: 12:07 p.m. CDT, 148:17:07 GMT
5/28/73

CC Skylab, Houston through Goldstone for -
Skylab, Houston through Goldstone for 6-1/2 minutes and we have
a picture.

SC Okay.

CC Okay, They - We'll leap right into it.
Here are the questions prepared by the newsmen in the order
submitted. For Commander Conrad. What EVA plans are you
considering now for freeing the stuck solar panel and when?

CDR Well. Of course, I can't do anything without
consultation with the ground. And my understanding is, that
they're looking at some possible things that we can do. And/
or if we can't, why I'm sure that the other flight, with the
proper tools, now that we know exactly what's hanging it up,
can get that solar panel out, even if we don't. And seeing,
we're only 28 days, our fuel cells will last 18 or 19 days and
we can go on reduced power after EVA, which is day 26 for
deactivation, which is 27, 28 and 29. So, we really wouldn't
lose too much without it. However, I think that we could get
it out with the right tools. And we've talked to the ground
and they are looking at the various ways of getting it out
down in the tank right now.

CC Roger. For Dr. Kerwin. Would you please
compare moving around in the workshop with the way you were
able to do it in the simulator? And do you have any sense of
up and down?

SPT Okay. Time and again, in the last 2 days,
we've told each other that except for the view out window,
it's just like the one-g trainer. And in many ways that's true.
The training was excellent. You do have a sense of up and
down. And you can change it in 2 seconds wherever it's
convenient to you. If you go from one module into the other and
you're upside down, you say to your brain, "Brain, I want that
way to be up." And your brain says, "Okay, then that way is
up." And if you want to rotate 90 degrees and work that
way, your brain will follow you. I don't think it's vestibular
at all. I think it's strictly eyeballs and brain. And it's
ah - remarkably efficient.

CC Roger. For Paul Weitz. You seem to be
having trouble with some of the food like the asparagus and
apricots. Would you explain why?

PLT I don't have any trouble with it. The
menu is just more than I'm use to eating.

CC Roger. For Commander Conrad. Based on an
early assessment, do you now feel you can complete a full
28-day mission, and carry out most of your experiments?

CDR You betcha.

CC Okay. If you think it's a good idea, or
can do it, we'd like to get the TV out the window, if not
we would like for you to explain some of the things in the ward-
room to us.

SL-II MC-196/2

Time: 12:07 CDT, 148:17:07 GMT

5/28/73

CC While you're doing that, for Dr. Kerwin.
Is the parasol smoothing out as expected in the sunlight?

SPT: You can't see it from in here. I'm sorry.

SC Hey, this is really pretty out the window.
I'm glad you asked about that. We're just passing over Puget
Sound. It's a very clear day today. We can see Vancouver Island,
I can see (garble) Island and (garble).

CC Okay. We see the the Pacific Coast, there.

CC For Paul Weitz. You have been working on the
probe and drogue today. Have you found anything that might
cause you a problem with undocking?

PLT We have not had a chance to get to the
probe and drogue, yet.

CC For Dr. Kerwin. Why were you the only crew-
member who didn't swear when the first docking attempt failed?

SPT I was too stupid to realize the serious
implications of our problem.

CC This one's for anyone. Have you had any
trouble with the toilet facilities?

SC No. We - It took us a while to figure out how
you're really got to work our super-doooper system in the work-
shop. But that was a little mechanical problem. We got that
squared away and we've had no problem.

CC For Commander Conrad. For listeners around
the world, could you tell us some benefits that Skylab will
bring to mankind?

CDR Well, the first thing that's obvious to me
is that man can work up here. And suprisingly enough, in the
workshop, we are doing what I consider a lot more physical
task, that is exercising our muscles than I thought we would.
Which has been one of the problems that I thought we might
have. And as you might expect, I think, all of us are a
little stiff from using muscles that we didn't expect to use,
and that we don't use on the ground to hold ourselves in a
proper way to use the tools and everything. There's no doubt
in my mind that all the Earth resources type thing that
we've talked about, are going to work. I've just been eye-
balling out the window here at 237 nautical miles and we do
pretty good with the Mark-1 eyeball. I think with our sensors,
that we'll be able to do the tasks that we set out to do especially
visual tracking and ah - Of course, we haven't been able to
fire up the solar telescope yet, but I have understanding from
the ground checkout, that it all appears to be in good order.
And I am sure that we're going to bring good data back from that.
So, I'm looking forward to a successful flight in Skylab of 28 days.
I think we overcame our problem and I think we will improve on
what we have if we get that other solar panel out. Right now we're

SL-II MC-196/3

Time: 12:07 CDT, 148:1707 GMT

5/28/73

in good shape. I think it takes 28 days to complete the flight. I think the biggest thing though, is the fact that we've adapted so rapidly in this big tank. None of us have had any motion sickness and we've remarked to each other on many occasions how much it seems to be like the simulators except with the absence of gravity.

CC Roger. Very good show, Pete. We're just about to LOS. If you've got any last few things you want to say here before we lose comm.

CDR Well, one nice thing I'd like to say, is we sure appreciate all the hard work everybody put into this thing. Because the vehicle is in excellent shape. It's clean as a whistle inside. Everything, so far, is working to what we expect. And as far as the flight control team, and the people that put it together, they did an outstanding job so the rest of it gets done.

CC On behalf of them, then, we thank you.

PAO Skylab Control, Houston. We had loss of signal with Goldstone. The next station to acquire will be Newfoundland back to back with MILA, then Bermuda.

END OF TAPE

SL-II MC-197/1

Time: 12:18 CDT, 148:17:18 GMT
5/28/73

CC Skylab, Houston; through Bermuda for
9-1/2 minutes.

SC Got it.

CC Pete, have you had a chance to look over the
probe procedures yet and do you have any questions on it?

SC No. We haven't had a chance yet, Hank.

Are you guys in a big hurry for that?

CC Negative. In fact, Rusty's right here.

I'd like to let him say a few words about the procedure.

SC Okay.

SCHWEICKART CDR, if you can hear, let me just say a couple of words. That procedure is a guideline - We'd like you to use it as a guideline. It's an Alpha to Zulu procedure, it covers the whole works. But the first 16 steps are more or less nominal checks on the probe. We expect to see positive results picking up at about step 17. That's where you'll be taking off the - the cap off the head of the probe there, or beginning to loosen it and we feel that it's a mechanical bind on that one capture latch. And I've done this over in building 5. It's a relatively simple thing. There's a couple of tricks, though. One of the, the cap is clocked uniquely on the probe head. So when you go to take it off you want to make sure you mark the clocking on the cap with one of the capture latches, so that you can put it back on the same way. Over.

SC Okay. I suspicion that you're right, Rusty. Because our first cursory examination indicated 2 capture latches would make it and the third one wouldn't.

SCHWEICKART Right. Because the third one is being held in there with a mechanical bind. It keeps the spider from coming out and locking the other 2 out also. And we expect that when you begin to loosen the cap or if you go inside under the cap, and by the way, that's no sweat. You're not going to lose any parts there. You'll immediately be able to see all the potential surfaces. And once you free up that third capture latch, we feel that the probe will function absolutely normal.

SC Okay. Do you have any idea why it happened. Or, let me give my idea again on why it happened. I noticed that when we docked, that it was a very gentle docking. I used the 4/10ths of a foot per second. I believe I was very close to that. maybe one-half a foot per second. On our third soft dock. And it was quite nominal. It was right down in - fairly well down the slot. There was very little spacecraft oscillation. However, during the night and the succeeding day, I noticed that from my window the spacecraft bent down and to my left. It parked in an extremely aftmetric attitude and stayed there. Now, I'm not exactly sure why it did that. I don't know

SL-II MC-197/2

Time: 12:18 CDT, 148:17:18 GMT
5/28/73

whether you maneuvered the vehicle and that's where it wound up, or what. But when we first docked and went into the night side we were pretty well lined up. But when we came out on the day side, my vehicle had moved down and left, with respect to the docking target. And it stayed there, and I remarked a couple times to the guys, if we had to be absolutely in the limit, because it was so far over. Now that may have had something to do with it, I don't know.

SCHWEICKART Okay, Pete. We've got people taking a look at that. We noted that comment when you made it. I think we're going to need your observations on the probe before we can carry much further on that. Just off hand, it doesn't see that there are any forces that can be generated. If you drift over to the edge that would cause a problem. But we're also looking at that.

SC We didn't feel any. And the other thing of course, is I couldn't have been more surprised after having gotten a perfectly normal soft dock the first time.

SC Now I, - we have examined the pro - Are you there?

SCHWEICKART Yes.

SC We have examined the probe externally and we can see very few marks on the head itself, more on the capture latches, for that matter. But we'll take your procedure, hopefully this afternoon, if I get through - get ahead here a little bit. I'll go tear into the probe.

SCHWEICKART Okay. We are in no hurry and, again, step 17 is about where we expect you see things. And use the rest of it loosely as a guideline. Pete, one further question, how about observations on the drogue? Are there any unique marks on the drogue?

SC Well, there's one great bit dent in the side of it where In one of the final attempts, I was really motoring in there to make sure I had enough velocity. But around where the center of the drogue is, no.

SC Other than the normal scratches that you see - litt scratches from the capture latches?

CC Roger. Understand.

SC And Joe says to start your node.

CC Okay. When you take the plunger out of the middle, if you're going to take the cap all the way off, be aware that that's a little mushroom cap with a spring underneath it. And it'll pop out a little bit, so you want to hold it. It's not very much. It's only about 3 pounds so, no sweat.

SC Yeah. I know the one you're talking about.

CC Okay.

SL-II MC-197/3
Time: 12:18 CDT, 148:17:GMT
5/28/73

CC Skylab, Houston; for the SPT.
SC Go ahead.
CC Roger. We concur with your recommendations on the protocol for M092. On M171, however, we would prefer to stick to the flight protocol. However, of course, if you're - in your judgment you start exceeding some of the limits on the spot, then you're clear to stop.

SC Okay. And we will. I - I didn't expect that the heart rates and so forth are gonna be biased to the heat storage side, because to the hot walls we've got here, we're really not able to radiate heat very effectively. Now I don't know what's going to happen when we raise the metabolic rate. But we'll give it a go.

CC Roger. Thank you.
CC And also in conjunction with the biomed activation, we would like to get a live TV pass at 18:48. And if you get a chance there, we'd like for you to set up a camera on TV setup number 8 Charlie. That's page 1-8 of the TV ops book. And turn on the camera just before the 18:48 pass over Goldstone.

SC Houston. Is it okay if I just point the camera in the general direction and turn it on. I don't want to get further behind on this thing. I'd like to get this first run in. And things take a lot longer the first time you go.

CC Roger. That's perfectable acceptable to us.
SC Very good.
CC Skylab, Houston. We're about 40 seconds from LOS; Canaries at 31.

PAO Skylab Control, Houston. We've had LOS with Bermuda. Standing by now for acquisition with Canary.

SC Skylab, Houston; through Canary and Ascension for about 16 minutes and we'll be dumping the tape recorder over Ascension at about 37.

SC Okay.

END OF TAPE

SL-II MC198/1

Time: 12:31 p.m. CDT, 148:17:31 GMT
5/28/73

SC Okay. Houston. There isn't any way we can give you the MDA. We haven't been back there since reveille. Guess what I just thought. How'd the command module doing? It's still there, isn't it?

CC Roger, still there and looking good.

PAO Skylab Control, Houston; at 17 hours 34 minutes Greenwich mean time. We have a long pass, combination of Canary and Ascension which gives us approximately 14 minutes until we have loss of signal with the Skylab space station. At 17 hours 34 minutes, continuing to monitor this is Skylab Control, Houston.

PAO Skylab Control, Houston. We have approximately 6 minutes and 30 seconds remaining on this pass over Ascension.

CC Skylab, Houston. In reference to the M151 that goes with the biomed, we're recommending that you have seven lights in the high position over the experiment subject area. However, if it feasible we would like to keep the total number of lights you have on in the workshop constant or near abouts constant due to power considerations. You can turn some of them off in the upper areas, or other areas. I might recommend to make it easier you use the switches on panel 613 for that, then all you have to do is throw them back on and you'd be back to original configuration.

SC Roger that.

SC What number are you looking for - total number of lights/ And you're right, it's inconvenient to go around from light to light, so we have been controlling them from 613. Now assuming they are all on high, how many lights would you like to see on? We've been running 10 to 13. I think once we've finished activation, we'll get by with about 10.

CC Okay. I guess what we're considering is about what you have now Paul. We were not - the point we were trying to make was that it was possible when you turn on these lights with the M151 we didn't want to increase the electrical load appreciably.

SC Oh, yeah, we understand that. We just wondered if maybe we been having too many lights on, more than you'd like or what. That's all.

SC Hey, Hank, CDR.

CC Go ahead.

SC How about sometime getting somebody to give me a status report on what you're think about that SAS panel. And I been doing a little thinking myself, so I'd like to get together sometime when somebody has got some plans about what they're going to do with it.

CC Okay, we'll keep that in mind, Pete. Soon as we get something we'll get with you.

SL-II MC198/2

Time: 12:31 p.m. CDT, 148:17:31 GMT
5/28/73

SC Okay.

CC Skylab, Houston, going back to our light situation. What we been using as our baseline down here to sort of program our power is 15 lights in the workshop on low. If you're comfortable with some other configuration, you say you got about 12 on now in high we'd like to - to know so we can , you know, update our baseline

SC Okay, that's a pretty good number, Hank. Why don't you base go on 12 on high.

CC Okay, we'll work from that basis then.

PAO We've been listening to CAP COM, Henry Hartsfield, talk with Paul Weitz about the lighting for the filming of M151. That's a time and motion study designed to evaluate the metabolic experiment M171, which is scheduled to start later this afternoon.

CC Skylab, Houston, we're about 1 minute to LOS. You're looking good going over the hill. Carnarvon at 10.

PAO Skylab Control, Houston, at 17 hours 48 minutes ground elapsed time. We've had acquisition - had loss of signal now with Ascension. The next station to acquire will be Carnarvon in approximately 22 minutes. During that relatively long pass over Canary and Ascension we received definite conformation from the Skylab crew that they had in fact spent the night in the multiple docking adapter versus the command module. Jokingly, they asked if the command module was still there and to the status and were assured by CAP COM, Hartsfield that the command module was in good shape. Skylab crew Pete Conrad, Paul Weitz, and Joe Kerwin have essentially completed their orbital workshop activation. Shortly this afternoon they will press on to activate the medical experiments M92, M93, and 171, these being activated and calibrated for use. The lower body and negative pressure device, the vectorcardiogram system, the metabolic analyzer, and the ergometer system are the principal pieces of equipment that are involved. And mainly this activation calls for Kerwin to turn knobs and watch gages and make the electronics active for operational use. Later in the afternoon M171 and M192 will be put into use with Paul Weitz as the subject, and Dr. Joe Kerwin as the observer. We're about 20 minutes away now from acquisition over Carnarvon and at 17 hours 50 minutes Greenwich mean time this is Skylab Control, Houston.

END OF TAPE

SL-II MC-199/1
Time: 1:08 p.m. CDT, 148:18:08 GMT
5/28/73

CC (Garble)
PAO Skylab Control, Houston; at 18 hours
9 minutes Greenwich mean time. Standing by now for acquisition
through Carnarvon with Skylab now on its 203rd revolution of
the orbital workshop. We'll stand by and monitor as CAP COM,
Henry Hartsfield, places his call to the crew aboard the
space station.

CC Skylab, Houston through Carnarvon for
8-1/2 minutes.

SC (Garble)
PAO Skylab Control, Houston. We have approxi-
mately 3-1/2 minutes remaining on this pass over Carnarvon.
The only contact with the crew thus far has been a callup
from CAP COM, Henry Hartsfield, which stated we had them under
acquisition and a brief acknowledgment from Pilot Paul Weitz.
We'll stand by and continue to monitor for the balance of the
pass. This Skylab Control, Houston.

CC Skylab, Houston. One minute to LOS.
Guam at 25.

SC Say, Hank, did I remember you saying
we're going to have a trim burn today?

CC That's affirmative. It'll come after
dinner tonight, Pete. A little after 01:00.

SC A little after 01:00. Okay.

SC Commander Weitz has just entered the
waste management compartment to see if our new equipment is
worth - I mean, that's the most serious test today.

CC Roger. Copy.

PAO Skylab Control, Houston; at 18 hours
19 minutes Greenwich mean time. We've had loss of signal
through Carnarvon. We should be acquiring Skylab through
Guam in approximately 5 minutes.

END OF TAPE

SL-II MC-200/1

Time: 1:23 p.m. CDT, 148:18:23 GMT
5/28/73

PAO Skylab Control, Houston; at 18 hours
24 minutes Greenwich mean time. Coming up now on acquisition
with Skylab through Guam. This will be approximately a 6-minute
pass. We'll stand by and pick up conversation with the crew
aboard Skylab as it develops.

CC Skylab, Houston through Guam, 6 minutes.

SC Hi, Houston through Guam. As soon as we
come out in the day side can I inhibit momentum for this BMF
decal?

CC Okay, stand by. I'll get an answer
on that.

SC Okay. Give me a time to do it.

SC Houston, SPT.

CC Go ahead.

SC Rate of the temperature in the food locker
562 is 99-1/2 degrees. And what stations do you want this -
the TV turned on over? Or shall I just leave it run?

CC We'd like to get it turned on at about
18 - or just prior to 18:48. Say about 18:45. That's about
20 minutes from now.

SC I'll try and remember. If I don't, holler.

CC Okay. You can turn it on now, if you'd
like.

SC No, it is on now.

CC SPT, Houston. Telemetry is showing the
camera is getting pretty hot now. I guess it'd be best
to turn it off now and turn it back on, and we'll give you
a call to remind you.

SC Okay.

CC Skylab, Houston. For the CDR, in answer to
your question on the momentum dump. You can inhibit from
now until 19:20. That's about an hour from now.

SC Okay, Houston. The CDR says he'll leave
it enabled and will avoid CB dump when he's doing cal.

CC Roger. Copy.

CC Skylab, Houston. Going LOS. Guam at -
check correction - Hawaii at 39. Make it Goldstone at 48.
We gave up Hawaii.

PAO Skylab Control, Houston; at 18 hours
32 minutes Greenwich mean time. We've just had loss of signal
through Guam. The next station where we expect to have voice
contact with the crew will be Goldstone, and that being approxi-
mately 16 minutes from this time. Hawaii is the next station
to acquire. However, it's only a 36 second pass and we expect
no voice contact. During this upcoming stateside pass, we
expect that Science Pilot, Joe Kerwin, will have started to
activate the medical experiments, M92, M93, and M171. We're
at 18 hours 33 minutes Greenwich mean time, and this is Skylab
Control, Houston.

END OF TAPE

SL-II MC-201/1

Time: 13:47 CDT, 148:18:47 GMT

5/28/73

PAO Skylab Control, Houston; at 18 hours 47 minutes Greenwich mean time. Standing by now for acquisition with Skylab through Goldstone. Skylab now on its 203rd revolution.

CC Skylab, Houston; through Goldstone for 6 minutes.

SC Rog. Houston.

CC And I'd like to remind you to get the TV on if you haven't got it on already.

SC It's on.

SC Hey, Hank. The specimen mass measuring device in the head doesn't work. Now we don't have time to pursue it but you turn it on and none of the lights come on and you push your reset button on and nothing happens in either the temp or the mass modes. How about having somebody research this and see if we got any spare parts on board or suggest a troubleshooting routine, if you would, please.

CC Okay. Will do.

SC It checked out all right yesterday.

CC Skylab, Houston. For the CDR.

SC Go ahead Houston. He's listening.

CC Okay. Thought he might be interested to know that the Indy race is in a hold for rain. However, the Sun has come out and it looks like they might get a race off at about 15 past the hour. We show you'll be going pretty close to Indy at about 57. Why don't you take a look at the clouds. If it looks good, drop the flag on them.

CDR Very good, Henry. Thank you for the information. If I don't get a chance to see it, then yall pass my word up there that I wish them all the best of luck in the world in the race - all my friends that are driving.

CC Roger. Will do.

SC Skylab, Houston. We're about 30 seconds from LOS. We'll be picking up at Texas at 55.

SC Roger.

PAO Skylab Control, Houston; 18 hours 54 minutes Greenwich mean time. The SMMD referred to as the specimen mass measuring device, the weighing device for use in the weightless environment in Skylab - -

PAO Skylab Control, Houston; standing by now for acquisition through Texas.

CC Skylab, Houston. We're back with you for a 12minute stateside and we'll be dumping the recorder at Bermuda. That'll be coming up at about 56, 57.

SC Fine.

SC There a few holes down there, Henry. I'm not sure I can see it or not. It looks like we're a little

SL-II MC-201/2

Time: 13:47 CDT, 148:18:47 GMT

5/28/73

north of the track.

CC Roger. Copy.

SC I've got us right over the middle of Lake Michigan and we just passed the tip of Superior.

PAO That's Pete Conrad advising Henry Hartsfield that they appear to be somewhat north of Indianapolis.

CC You might go pretty close to it.

SC I'll tell you this 37 nautical is great. We're right over the mouth of the Delaware River and we can see clear past the Keys.

CC Roger.

SC You might decide tomorrow or the next day, Hank, you want to have the weather man whip us up some good weather. It was kind of cloudy there from Chicago on down. And we'll get some pictures up this way. We've never had any up this way before.

CC Roger. We're going to get the EREP cranked up here in a few days.

SC What's our elevation angle at Bermuda?

CC Bermuda maximum elevation is 65.8.

SC And where's it gonna be? Oh, never mind, I see it.

CC Okay. You're at 30 degrees from Bermuda now - 30 degrees elevation.

SC Yeah, I know. I got it loud and clear.

CC Paul. We'd like to verify your comments on the SMMD, just to make sure we got it straight. As I understand it, the circuit breaker was in. You could not get any lights at any position of the switch and the reset would not work. It acts just like it has no power to it, is that correct?

SC That's right, Hank. This is SPT. I activated it last night. It was fine. Paul remarked, when he went in just now that the mass off temp-switch was in MASS, which indicates I may have left in in MASS although, I don't remember doing so. The one in the wardroom you stow, okay and that's all the information we've got.

END OF TAPE

SL-II MC202/1

Time: 14:01 p.m. CDT, 148:19:01 CMT
5/28/73

SC - - we left it in there, though I don't
remember doing so. The one in the wardroom is still okay.
And that's all the information we've got.

CC Roger, copy. Thank you.

CC Skylab, Houston, one minute to LOS.
Ascension at 16.

SC Rog, Hank, and let me know if they get
the race off and keep me posted, will you?

CC Okay. Will do.

PAO Skylab Control, Houston, at 19 hours
9 minutes Greenwich mean time. We've had loss of signal with
Bermuda. The next station to acquire is Ascension in
approximately 7 minutes. The piece of equipment that
may have failed is the specimen mass measurement unit or
device. There are two units aboard. The one appearing
to have failed is the waste management compartment. This
particular situation is being studied and analyzed in the
bio-medical backrooms at this time. We're at 19 hours
9 minutes Greenwich mean time. This is Skylab Control,
Houston.

END OF TAPE

SL-II MC-203/1

Time: 2:15 p.m. CDT, 148:19:15 GMT

5/28/73

PAO Skylab Control, Houston; at 19 hours
15 minutes Greenwich mean time. Standing by now less than
1 minute away from acquisition with Skylab through Ascension.
CC Skylab, Houston through Ascension, 6 minutes.
SC Roger, Houston.
SC Hello, Henry. Do you read?
CC Roger. How's it going?
SC Okay. Slow. We're getting there, though.
Hey, I got something. To me, on S149 box which I'm in the process
of moving now, it's got two distinctly different types of tiedowns.
One - two of them are on opposite corners - diagonal corners that
are just bolted into the grid; the other two are some kind of clip-
shaped tiedown restraint. Those clipped - Those clipped shaped
things show, what to me appear to be evidence, of a pretty good
upward load on the box, which means that half moving load on the
stage. Now, I'm saving those in case you want us to take pictures
of them to show them to you on TV or throw them away - whatever
you want -
CC Okay. Stand by and I'll get an answer
on that.
SC Okay, no rush. I just keep them warm
in my pocket.
CC And I'd also like to verify we got the
TV off.
SC Verified.
SC Say, Houston; CDR.
CC Go ahead.
SC On this calibration, I am not able to
use this correct procedure because we don't have an S020 film
container with us. Do we?
CC Roger. Stand by.
CC CDR, Houston. The word is to omit the
S027 film container and press on.
SC Okay, Hank. That's what I figured.
We'll press on without it.
CC Okay, and we're about 10 seconds from
LOS. We'll be coming up on Carnarvon at 47.
PAO Skylab Control, Houston; at 19 hours
22 minutes Greenwich mean time. We've had loss of signal
with Skylab through Ascension. The next station to acquire
will be Carnarvon, some 24 minutes from this time. Meanwhile,
in the Mission Control Center, toward the later part of that
pass, the ADAM flight controller reported that they had suc-
cessfully concluded the ground commanding and checkout of the
Apollo telescope mount at Greenwich mean time of 19 hours
19 minutes 19 seconds. This is Skylab Control, Houston.

END OF TAPE

SL-II MC204/1

Time: 14:45 p.m. CDT, 148:19:45 GMT
5/28/73

PAO This is Skylab Control, 19:45 Greenwich mean time. Less than a minute now before acquisition through the Carnarvon, Australia tracking station midway through Skylab's space station revolution number 204. Following Carnarvon there'll be a slight break of about 3 minutes before acquiring again at Guam. A circuit will be left up through both these stations. We now have data from the space station. Let's listen for a conversation on the air ground.

CC Skylab, Houston, through Carnarvon for 10 minutes.

SC

Hi, Henry. Is Mister BMMD around there?

CC

He sure is. And he's listening.

SC

Okay, well, tell tell him I win my bet.

There isn't any way that those shoulder straps will hold those two 509 batteries and that P003 in there without them rattling all over the place. I been screwing with it for an hour and without wedging it with some mosite blocks and the straps, I'm not gonna get it done. Now, he's got two choices; he can - I can bring home the mosite blocks and the straps and go ahead with the two batteries or I can skip the whole thing. I've already invested an hour trying to get this one data point.

CC

He would prefer you go ahead and put the mosites in and bring them home.

SC

Okay. Have somebody write it down on the storage list. We'll get a bag and we'll tell you what we used and where we put it so you can remind us at the end of this thing. And I don't think it's worth the effort. The rest of them worked slicker than glass and was very repeatable, but that one data was miserable.

CC

Okay, and whatever you use you want to be sure you use it on the subsequent calcs.

SC

Understand.

CC

Skylab, for info the ATM ground checkout is complete. All is okay. We're going to command the EPC down and go back to solar inertial to conserve power.

SC

Roger.

CC

And for Paul, in regard to those straps, why don't you hang on to them and the next time we got some TV you can give us a closeup of them.

SC

Say again, Hank. We didn't hear you.

CC

Roger. Paul reported that a couple of the straps on the S149 showed signs of severe strain and we'd like to have him hang on to those; the next time we have some TV he can give us a closeup of them.

SC

Okay, when's the next TV?

SL-II MC204/2

Time: 14:45 p.m. CDT, 148:19:45 GMT

5/28/73

CC I'm not sure at this point. Probably
will be sometime tomorrow I think.

SC Okay.

CC Skylab, for the CDR. We just got the
word that they're rolling the cars out to the starting
line now.

SC Okay. Do we come anywhere near there
on the next pass?

CC Looks like you're going right over the
center of the U.S. on this next pass, Pete. Looks like you
might be about 6 to 800 miles southwest at closest approach.

SC Okay.

CC Skylab, Houston. In regard to the
SMMD problem, we're going to let you have your druthers
on that. I guess if we had a preference down here, we would
say weigh everything in the wardroom. I guess we'd be
a little reluctant since we got it working to take a chance
on damaging the electronics if we change that out over to
the WMC.

SC Okay.

SC We don't have any spare electronics
onboard, then. Is that right?

CC No, that's affirmative, no spares.

END OF TAPE

SL-II MC-205/1

Time: 14:57 CDT, 148:19:57 GET

5/28/73

CC Skylab, Houston, through Guam for 10 minutes.
PLT Hey, Hank, this is the PLT. I got a ques-
tion on the sail tripod.

CC Go ahead.

PLT Okay. The one we're doing just for ex-
periment of course is the one we brought up in the command
module. Now on the - this big bolt that holds the leg to the
floor - as it's now configured there's a gap between the sleeve
and the shank of the bolt. Is that the correct way for instal-
lation or should it be turned over? I forgot.

CC Okay. That sleeve - that little thing
there should be turned over such that you make the minimum
number of turns putting into the floor.

PLT So you make less turns screwing it in.
Okay, so I guess it's configured for Houston. Thank you.

CC CDR, Houston. I just got the word that the
pace lap has started - Al Warden in the pace car. And they're
going to run a short race. The winner will be the leader at
the end of 100 laps.

CDR All right. Okay, Hank. Thank you.

CDR What - what are they running in the
darkness? I've no idea what kind it is.

CC Okay, I just got the word the race has
started.

CDR Okay.

END OF TAPE

SL-II MC206/1

Time: 15:06 p.m. CDT, 148:20:06 GMT
5/28/73

CC Skylab, Houston; about 30 seconds from
LOS. Goldstone at 25.

PAO This is Skylab Control, 20:10 Greenwich
mean time, 14 minutes from Goldstone for a fairly solid
stateside pass through Goldstone, Texas, and Mila, and the
ragged edge of Bermuda for the final time today. In fact,
Bermuda is only a 4-degree pass and yesterday about this
time, Bermuda was released. We'll be back again live for
the upcoming stateside pass. And at 20:11 Greenwich mean
time, this is Skylab Control.

END OF TAPE

SL-II MC207/1

Time: 15:24 p.m. CDT, 148:20:24 GMT
5/28/73

PAO This is Skylab Control, 20:24 Greenwich mean time. 45 seconds from acquisition through Goldstone. Here in the Control Center, another aspect of power usage has seemed to surface. It seems that the food trays for heating the Skylab canned food in the wardroom each use 150 watts of electrical power when all of the cavities are turned on, the heating cavities. So now as a part of each day's Flight Plan., it appears that the crewmen will be rationed, as it were, to how many cavities they turn on at each meal. On more or less a rotational basis. And this is particularly true when other devices and experiments are turned on that require electrical power. We should have AOS now for the next 16-1/2 minutes. 20:25 and standing by, this is Skylab Control.

END OF TAPE

SL-11 MC208/1

Time: 15:32 p.m. CDT, 148:20:32 GMT
5/28/73

SC Hey, we got a visual on you, Hank.
CC Is it clear outside?
SC It looks like it.
CC CDR, you ought to have a Little Rock just
north of you there.
SC We got Houston loud and clear. Man,
you can really see it today.
SC Watched the Mississippi and all the
flooding along it.
SC We got a good shot of the Cape from
here, too. Can see all the pads.
CC Roger. Can you tell whether they
brought your LUT back out to the VAB yet?
SC Not quite. Need to put on my binocs.
CC Skylab, Houston. We've got about 4 minutes
left on this pass. We'd appreciate a progress report some-
time between now and LOS.
SC The CDR is just finishing up the BMD.
SPT The SPT is on page 3-57.
CC Roger. Copy.
SC The PLT is in the midst of PCU ullage (garble)
config. I'm almost done with yesterday's work.
CC Roger. Copy, and have the plenum
bags been stowed yet?
SC The plenum bags are stowed; yes.
CC Good show.
SC Very neatly down in the bottom where
they belong. Three of them were still - we'll hold this one - one
for a little while. It's only about 2/3s full and we're coming
up with some more gear out of the medical stuff and every-
thing to get rid of. We'll whip that down there a little
later.
CC Okay.
CC Skylab, Houston, we're about 15 seconds
to LOS. Be picking you up at Vanguard for a short pass
at 53.
PAO This is Skylab Control, 20:43 Greenwich
mean time. Skylab space station just passed out of range
of the Mila tracking station. Now crossing the northern
coast of the South American continent; 9-1/2 minutes to
a very short pass along the northeastern edge of the
tracking ship Vanguard acquisition circle. It is likely
that we'll barely have time to even raise the crew before
we have loss of signal. 20:43 Greenwich mean time returning
in 9 minutes, this is Skylab Control.

END OF TAPE

SL-II MC209/1

Time: 15:52 p.m. CDT, 148:20:52 GMT
5/28/73

PAO This is Skylab Control, 20:52 Greenwich mean time. About 10 seconds away from acquisition through the tracking ship, Vanguard. There may not be any conversation over this very brief pass. Extremely low elevation angle. Total pass time 4 minutes, but we'll monitor it anyhow. Standing by, this is Skylab Control.

CC Skylab, Houston through Vanguard for
3-1/2 minutes.

CC Skylab, Houston; 1 minute to LOS.
Goldstone at 02.

PAO This is Skylab Control; 20:58 Greenwich mean time. Eventhough CAP COM, Hank Hartsfield, called the crew a couple of times to remind them we were still here, he got no response over the Vanguard from the Skylab crew. An hour and 3 minutes until acquisition by Goldstone on the next stateside pass. We'll miss Carnarvon and Guam this next rev. And at 20:58 Greenwich time, this is Skylab Control.

END OF TAPE

SL-II MC-211/1

Time: 17:01 p.m. CDT, 148:22:01 GET

5/28/73

PAO This is Skylab Control, 22:01 Greenwich mean time 40 seconds out of Goldstone on the next to the last stateside pass of the evening. We're now estimating a Change-of-shift briefing at the Houston news center no earlier than 6:30 p.m. central daylight time, probably more like 7:00 p.m. Participants will be off-coming Flight Director Neil Hutchinson and Flight Surgeon Doctor Royce Hawkins. Repeat: press conference estimate between 6:30 and 7:00 Houston news room. Participants Neil Hutchinson and Doctor Royce Hawkins.

CC (Garble) 14-1/2 minutes.

CC Skylab, Houston. It's been a little over an hour since our last contact. If it's convenient I'd like to get a progress report.

CDR Roger, Houston. The CDR has finished T003 and I'm about to add to the ATM and accomplish all these tasks. The SPT and PLT are in the process of putting on the biomed now for the 92-171. The MA is activated - MO-92 LBNP is activated and they'll be in experiment operations now very shortly.

CC Roger. Copy.

CDR Have you had a progress report on the Indy race for me?

CC Roger. They got off to a bad start and while they were trying to get sorted out to start again it started raining, so they scrubbed until 09:00 tomorrow morning.

CDR To 09:00 tomorrow morning. Okay. Thank you.

CDR Do you hear that good music in the background?

CC We hear that music in the background.
(Music)

PLT Hey, help. He's driving us crazy.

CC Skylab, Houston. We're about 1 minute from LOS. We'll be coming up on Vanguard at 27:00 and we plan to dump the data recorder there.

CDR Okay.

PAO This is Skylab Control. We've had loss of signal from the Texas station on rev - at the beginning of rev 206. Vanguard in 10 minutes. Sounds like Pete Conrad has been playing some of his country music cassette tapes to some amount of consternation to his crewmates. Conrad reported during that pass that he had completed one run of the T-003 experiment which is called inflight aerosol analysis. This device measures particle composition - different sizes and distributions around inside the space station to assess the - any potential health hazards or sources - whether or not the air is being distributed properly within the space station - filtered and so on. He also reported that Weitz and Kerwin had begun a run of T-171, which is the metabolic activity

SL-II MC-211/2

Time: 17:01 p.m. CDT, 148:22:01 GET
5/28/73

experiment. Scrub that - M171 which uses the bicycle ergometer with all kinds of plumbing and electronic gadgets attached to the person mounted up on the ergometer - measures various outputs of the human subject - blood pressure, heart rate - against a measured workload. Eight minutes out of Vanguard - back up at that time at 22:18 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-212/1
Time: 17:26 CDT 148:22:26 GET
5/28/73

PAO This is Skylab Control 22:26 G.m.t. about 5 seconds away from acquisition at the Vanguard tracking ship. We'll monitor that pass lasting a total of 9-1/2 minutes. Standing by, this is Skylab Control.

CC Skylab, Houston, through Vanguard for 9 minutes.

CDR You know I found out what happened on that 13 message. I got the message last night and I did the quiescent configuration of it and it also was (garble) but the (garble) down at the bottom of it, and I got down there and I didn't understand them and when I went back after getting your other message just now and reconstructed what I had, why it was there. All the messages today have been good.

CC Okay, I'll send a message that today are good. We just sent one up on tomorrow's flight plan. And we got a reject and invalid character. So we'd like for you to disregard that one. And we are going to ship you another one.

CDR Well, I have one in my hand and then there was another flight plan just behind it which I didn't mess with. Are you saying the one that I have in my hand is no good?

CDR I'll give you the message number, 0501A1, 068 flight plan for 05/149.

CC Okay, that one is good. The one that might be bad is the second page which is 0501A2.

CDR Okay, that's still in the teleprinter.

CDR All right. Houston, are you there?

CC Roger, go ahead.

CDR Just talking to Paul. In answer to your question on message 0416A about the mol sieve bakeout heaters, just before or just after he turned the timer on he turned on the heater quickly to take a look if the mol sieve temperature was (garble) So, what you saw was just turning on the mol sieve heaters to read the mol sieve temperature.

CC Roger, copy.

CC EGIL is breathing easier now.

CDR Okay.

CC I guess we're convinced now that the timer A is okay. We just hit it at a place when it wasn't ready to cycle. But we want to stay in the configuration we're in now.

CDR Yeah, I vaguely remember where they changed the wiring or did something. Normally, when you brought on the primary timer, it always cycled, but now the random thing in (garble)

CC Roger, that's affirmative.

SL-II MC-212/2
Time: 17:26 CDT 148:22:26 GET
5/28/73

SPT Hello, SPT.

CC Go ahead.

SPT Just for your information, we're about to start M092. And the subject is not isolated from the lower body negative pressure device unless he really sucks in every inch of skin, legs, arms, belly, and everything else. (garble) this is good, and we have no choice but to press on, it's an old problem. I just thought I'd let you know.

CC Roger, copy. And we're about 30 seconds from LOS. We'll be having a very low angle pass at Hawaii at 37. If we miss that one, we'll get you at Goldstone at 42.

PAO This is Skylab Control. Loss of signal through the tracking ship Vanguard. Fifty-nine minutes to Hawaii, an extremely low angle pass, 1.4 degrees. Unlikely there will be any conversation there. But, we'll come up at that time, bridge across to Goldstone, which is not much higher elevation angle of 6 degrees. Only 3-1/2 minutes pass - the last Goldstone pass of the evening. Upcoming this evening is the so-called trim burn to move the space station back into repeating groundtrack. This burn will be accomplished with the service module reaction control system quads A and C flying in a plus-X direction. Burn ignition time is 8:07:36 , 8:07:36 central daylight time. Total velocity change 2.1, 2.1 feet per second. Burn time 1 minute 3 seconds. To repeat an earlier estimate on a change of shift press conference, no earlier than 6:30 p.m. central daylight time in the Houston News Room. More like 7:00 o'clock. Participants Neil Hutchinson, the off coming Flight Director, and Dr. Royce Hawkins, the Flight Surgeon - one of the flight surgeons. Fifty-seven minutes from Hawaii. And at 22 hours 39 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SM-II MC-213/1

Time: 18:26 CDT, 148:23:26 GET
5/28/73

PAO This is Skylab Control, 23:26 Greenwich mean time. The change-of-shift press conference will take place at 6:30 or shortly thereafter, inasmuch as Flight Director Neil Hutchinson is preparing now to leave the Control Room and head for the Houston News Center. With him will be one of the Flight Surgeons, Dr. Royce Hawkins. We're 10 minutes out from acquisition at Hawaii followed by a brief gap across the southwestern edge of Goldstone and on down to tracking ship Vanguard. These passes will be taped and played back on a delayed basis after the press conference is completed. At 23:27 G.m.t., Skylab Control.

END OF TAPE

SL-II MC-214/1

Time: 19:25 CDT 149:00:25 GET
5/28/73

PAO This is Skylab Control, 00:25 Greenwich mean time. Forty-seven minutes out of Hawaii. Start of revolution number 207. Spacecraft or Skylab cluster off the Cape of Good Hope, South Africa. Prior to the time that Flight Director Neil Hutchinson left the Control Room in route to his press conference, he gave his team a pep talk here for activation of the Skylab space station over the last 3 days. "I think you guys did splendid" was one of his comments. He complimented them highly on a lot of hard work in making the best out of a situation, which earlier might have looked rather gray. During the time of the just completed press conference, we've had three station passes with Skylab: Hawaii, Goldstone, and Vanguard, for a total of 11 minutes of tape. This is all compressed in playback to be more or less continuous. So, at this time, we will play back these three station passes and we'll be caught up with Hawaii coming up some 45 minutes from now. Roll tape.

CC Hello, Skylab, Houston. We've got you in Hawaii for 1 minute.

CDR What did you say, Hawaii for 1 minute, Dick?

CC That's affirm, Pete.

CDR What's our next station?

CC It's Goldstone and it's just following this pass at 23:42, about 5 minutes.

CDR Okay, I need to talk to you about a couple of things there.

CC Okay.

CC And CDR, Houston. The only note that I had for you guys was later on we're going to be doing a trim burn this evening and we're going to have a pad up for you at Goldstone. Be advised we intend to command the burn into EXPERIMENT POINTING mode at this upcoming Goldstone pass. And so for the unattended OPS, after the trim burn, just a reminder to go back to EXPERIMENT POINTING mode.

CDR Okay.

CC And we'll see you at Goldstone.

CDR All right.

CC Skylab, Houston. We're AOS at Goldstone for the next 4 minutes and go ahead, Pete.

CDR Okay, Dick. I was changing out the ATM coolant loop filter and the outlet QD stuck on when I took off, when I was changing the filter. So I lost 4 or 5 ounces of fluid out of it before I could get it back on the connect or again, the QD stuck open. But I finally did get it changed out. And then in checking it, I noticed that it took a long time for the PUMP DELTA P light to go out. I guess maybe there

SL-II MC-214/2

Time: 19:25 CDT 149:00:25 GET
5/28/73

was pressure in the line and we just lost the pressure and I presume it took a while for the accumulator to get it on there. But I ran 60 Uncle and completed 60 Tango, so they're both done.

CC Okay understand. We copy.

CDR I'm about to eat. I've caught up and my dinner is cooked. Joe and Paul are a little bit behind. Paul is just in the middle of riding the bicycle right now. And why don't you go ahead and get the trim burn in there.

CC Pete, it's coming up on the teleprinter this pass.

CDR Okay.

CC And in the event that we don't get it up or something though, I'll have the numbers for you here shortly.

CDR Did you want to do it the page of activation?

CC Sorry Pete, so much squeal on that speaker box, I couldn't copy. Say again.

CDR Roger. Do you want to reference the page in the activation checklist?

CC Roger. The trim burn, if you look on page 3-62, and the tape time is day 149:01:07:36. And the burn time is 63 seconds, 1 minute plus 3 seconds. It's going to be a 2-jet burn, quads Alfa and Charlie plus X, using the PSM. And the Delta V is 2.1 feet per second.

CDR Okay, I'm sorry I was (garble)

CC Roger, Pete. We've got about a minute to LOS and I think the information is in the teleprinter now. If not, I can give it to you at Vanguard. We're going to be at the Vanguard right on the hour. And be advised, we are going to do an airlock module, I'm sorry, a data tape recorder dump at Vanguard.

CDR Okay.

CC Skylab, Houston. We're AOS at Vanguard for 10 minutes.

PLT Roger, Houston.

CC And Pete, I'm assuming you got that information on the trim burn on the pad.

CDR Yes.

CC Okay. I have one thing for you. When you go up to the command module the G&C has 4 switches, 4 or 5 switches that he'd like for you to verify that are turned off after the trim burn as you leave for power tonight.

CDR Okay, go ahead.

CC Okay. First the service module - they're all on panel 5 - service module. RCS heaters, quads Alfa and Delta to off; then the SMRCS heaters engine package Alfa

SL-11 MC-214/3

Time: 19:25 CDT 149:00:25 GET
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and Delta to off; and then SMRCS PSMI heaters to off.
Over.

CDR I believe it's in that configuration
now.

CC Roger. We just wanted to make sure when
you can verify that and, when you leave, just
make sure they are.

CDR Yes, well, that was that low powered
(garble), I think.

CC Roger, understand. Okay.

SPT Houston, SPT

CC Skylab Houston. Go ahead.

SPT Okay, I just finished the major medical
run and I have a few comments I want to make. You got the
right people ready to listen?

CC Yes sir, go ahead, Joe.

SPT Okay. M092 was interesting. The
cabin temp was reading 88 on the workshop panel, 93 on the
ESS. The chamber temp was 97 degrees. We ran the whole run,
30, 40, 50, because the numbers looked okay as we went.
two medical comments: the right volume was much higher
than I've ever seen it on the PLT before. At least twice
the Delta (garble) in leg volume than I've ever seen
before. His initial calf circumferences were both about
a half an inch less than they have been on the ground. He
was perspiring by the end of the run, but his figures,
which you guys will see in all their glory and detail, were
normal. Then we went to M171 and as a lot of us had suspected,
we've got a significant mechanical efficiency problem in
riding the bike, which is going to take us I think a few
days to solve. The harness is not efficient enough.
Paul will describe this in more detail later, but essentially,
he winds up doing a great deal of work with his hands and
not being as efficient with his legs and his big muscles
and he can't get to the high work loads nearly as well.
We terminated that run with a little under 3 minutes to go -
both, for that reason and because of an obvious thermal problem.
It's just too damn hot in here to go 200 watts on that
bicycle.

END OF TAPE

SL-II MC-215/1

Time: 19:35 p.m. CDT, 149:00:35 GET

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SPT: - and because of an obvious thermal problem, it's just too damned hot in here to go 200 watts on that bicycle. And while we will run M171's, pending solution of that thermal problem, I'm going to strongly recommend against running it at the (garble).

CC Roger, Joe, we copied all of that.

SPT Okay, essentially the M171 people have to realize that their data is being biased by the thermal and the mechanical problems and is I don't think representative at all of deconditioning. And it's not gonna be representative of deconditioning until we get the environment squared away and learn how to ride the bike.

CC Roger, Joe.

CC And Skylab, Houston. I only have one question that I was going to pass up tonight but we still have about five minutes left in this pass if - and it concerns the problems that y'all had apparently on the trash airlock dump this morning. And we were wondering if you used a - if the disposal bag that you used that you had the GCTA's in - was that a urine disposal bag or one of the regular kind?

CDR It was a urine bag.

CC Rog. I understand.

CC Skylab, Houston. We're about 40 seconds from LOS. We're going to see you at Hawaii at 01:12.

CDR Okay, Houston. 01:12 - we'll have to burn in and could you tell me - what did you find out about the vents in the OWS today?

CC CDR, Houston. If you're asking about the solenoid vent port - did y'all get that capped? We haven't run that test yet I think?

CDR Yes, they're capped.

CC Rog. We will be running it and we will let you know.

CDR Okay.

PAO This is Skylab Control, 00:37 Greenwich mean time. That concludes playback of the Hawaii, Goldstone and Vanguard pass recorded during the Change-of-shift press conference. During the last few minutes over Vanguard, Joe Kerwin described operation of the experiment M171, metabolic activity, and the associated difficulties in getting accurate measurements because of the combination of mechanical problems with the equipment and the high heat load experienced by the subject. And that over a period of time, the bias can be figured out on how the measurements can be tallied. Thirty-three minutes to acquisition at Hawaii, and at 00:38 - 00:39 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-216/1

Time: 20:12 p.m. CDT, 149:01:12 GET
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CDR - (garble) when's that burn?
CDR Before you get upset - it went off on time.
CC I was already upset. You waited too late.
Roger, (garble) how'd it go?
CDR It went okay, but it sure (garble) makes
that sail bang in the breeze out there.
CC Roger. Incidentally, Pete - -
CDR I can just see the front of the sail from
the command module window.
CC Rog. I understand. Let's don't knock it off.
Incidentally - -
CDR (Garble)
CC Incidentally, Pete, we're going to be com-
manding unattended AIM OPS starting this pass and that will
be continuing and I won't bother to keep you completely up
to speed. Over.
CDR Okay. Now (garble) only shows 1.2 feet
per second and I thought you were supposed - I thought Bob
was supposed to get 2.1.
CC Roger, Pete. Copy and we'll be checking
the bird and keep with it. What kind of burn time did you
have Pete?
CDR One minute and three seconds on two quads,
A and C.
CC Roger, we'll be checking the bird and
keep up with it and let you know.
PLT Hey, Dick, I also got a question on a
cryo configuration. Nobody here really remembers if
it supposed to be this way or not. We have got H2 HEATERS
in AUTO on tank 2. Also O2 HEATERS in AUTO in tank 2. Is
that's what - the way we want it?
CC Stand by 1.
PLT Okay.
PLT No rush. Whenever you find out let us know.
If you want something changed we'll change it. And the heater
configuration on the RCS is what you wanted?
CC Okay, real good. And while you guys are
still by the phone I've got two or three questions that I
wondered - we were wondering if we could ask of you.
CDR Go ahead.
CC Okay. On the flight plan - the - our
activation checklist people were wondering about three or
four items to see if you've got done today. One was the
wardroom SMMD cal, another was the launch restraint removal
from the fecal collector and from the fecal collector filter,
and the third was the transfer of the food overage. Over
PLT Okay, the first (garble) didn't get done.

SL-II MC-216/2

Time: 20:12 p.m. CDT, 149:01:12 GET
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I guess I haven't killed the SMMD yet, and I think the other two items are both complete.

SPT That's affirmative, Dick. The other two are done.

CC Okay, real fine. Thank you, and one more question for flight planning purposes - did y'all do a fuel cell purge on mission day 3?

CDR Yeah, I did systems housekeeping 4 which was just hydrogen.

CDR It was scheduled yesterday.

CC Roger.

CDR And on day 2 I got oxygen as I remember.

SPT Houston, SPT. There's a thing I don't understand on page 2-21 of the ATM systems checklist concerning enabling and contingency momentum sample. I didn't think that was required. I guess I'd like to know whether you want me to do it or not.

CC Okay, Joe, we'll get you an answer on that.

SPT Thank you.

CC Okay, one more question we had that goes back to the rendezvous day. Prior to launch we had put a procedure in the - in your checklist that had to do with a good visual inspection through the - of the minus-Z SAL, but based on your fly-around the other day it was our understanding that there was no debris of any kind that would possibly block the minus-Z SAL and if you can confirm that we're going to delete that from the flight plan tomorrow.

SPT What's that, the fire alarm? (Laughter)

CC You guys okay?

CDR There was no damage to the minus-Z SAL. I reported the plus-Z SAL had some gold foil flaked off and standing up around it, but the minus-Z SAL was clean.

CC Very good.

CDR The other thing I reported was that obviously the meteoroid shield had scraped across that area and specifically by the wardroom window.

CC Roger, copy.

CC And - -

CDR Say, while you're making your temperature studies down there, it doesn't appear enough like the workshop is cooling off anymore. What do your thermal guys have to say?

CC Let us get a quick answer for you on that Pete and an answer for Joe on the contingency momentum sample. Yes, we would like to go ahead and take that momentum sample and then go back to experiment pointing mode.

SPT Say, we're back in experiment pointing mode,

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Dick. The procedure I referred to is the business of (garble) inhibiting CMG control and then reabling it. That just doesn't ring a bell with me at all.

CDR And while you're thinking of that, Dick. One other thing. We've been running (garble) blowers and I'd like to keep tomorrow strictly to the flight plan and see how we do that day. And all these little extra goodies that have been coming up in front of this (garble) I put going have a late night tonight dumping this water. I have yet to have a chance to read the probe stuff. So we need to do some catching up and I'd like to see tomorrow and the next day that they'd be normal days - if anything it backs off just slightly so that we could get some stuff squared away here. Because we're eating food so fast that the wardroom is getting dirty. We're dumping trash but we've had a few fruit bag failures and it looks like one of these days we are going to have to halt for about a couple of hours anyhow. (Garble) the place - if we're going to keep it clean.

CC Roger, Pete. (Garble)

CDR Up there's that duct. You can tell the real airflow pattern works great.

CC Rog, Pete we dropped out there for a second but we certainly got your message on the flight plan. And I think we did get a request from G&S - request to inhibit and then re-enable the CMG control so that we can get that contingency momentum sample.

SPT In other words we wouldn't get it if we didn't do that?

CC That's affirmative.

CC Skylab, Houston, we're about 45 seconds from LOS. We're going to see you at Vanguard at - the Vanguard pass will be at 01:42 and we'll have the evening status report there. And also, Pete I'm not sure we understood which of the purges that you did on mission day 3 which was either yesterday or the day before so we need a little bit of a clarification of where there was H2 or O2 or both.

CDR Okay, Dick. I think if you look at the checklist, flight plan for activation, I did what was ever called for. It seems to me on day 2 I did an O2 purge. It seems to me last night I did a H2 purge which is systems housekeeping (garble).

CC Okay, Rog, Pete. Copy and I'll get back with you at the Vanguard.

PAO This is Skylab Control. Early acquisition there at Hawaii, at least compared to the AOS clock. When the spacestation first came up over Hawaii, Pete Conrad called down, "Hey, when was that burn supposed to be?" He was pulling the collective legs of the people in the control center pre-

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tending he missed the burn which actually had taken place a few minutes before Hawaii. He did report that the burn did go on time, which was 8:07:36 central daylight time. Burn time was normal one minute and three seconds. Two thrusters of the service module reaction control system - however, the DELTA-V counter on the command module only showed 1.2 feet per second instead of 2.1. The ground said they would check the tracking over the next several hours to see what the effect was of the burn and try to sort out whether it might be a faulty DELTA-V reading onboard or some other reason for not getting the correct onboard reading for the maneuver. Vanguard in 18 minutes - back up at that time. And at 01:24 Greenwich mean time, this is Skylab Control.

END OF TAPE

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PAO This is Skylab Control, 01:41 Greenwich mean time, 45 seconds out of the tracking ship Vanguard for the next to the last tracking station pass before the crew of Skylab space station sacks out for the evening. Current orbit measurement, 233.8 nautical by 239.6. Awaiting confirmation lock-on by the antennas at Vanguard. Starting to get a line noise now, we'll bring up the circuit.

CC Skylab, Houston. We're AOS at Vanguard for the next 9 minutes and before your evening status report, I have one small note for you.

CDR Go ahead.

CC Roger. We have looked at the temps, Pete, and they do appear to be leveling off. And we think we may make a little money this evening while you guys sleep by enabling the secondary coolant loops. So, we intend, at this pass, to command it ON and you should get a momentary secondary coolant flow of CAUTION and WARNING so don't be surprised at that. In answer to your questions that temps do appear to be leveling off some, we're not sure whether - what effect your increased BTU output today has been, but we're going to turn on the secondary coolant loop up.

CDR Okay.

CC And with that, I'm ready for you to start on the evening status report or whatever you have.

CDR Okay. First thing is I just put the BMMD CA1 and the transcribed portion of the evening status report on B channel for you.

CC Okay.

CDR I got so many books in my hands, I got to lock into the floor. While I'm getting organized - We're trying to set the alarm, just a second.

CDR Okay. While we're getting organized, I believe, through the binoculars, we've sighted our SOII 2 here, just a little while ago.

CC Roger.

CDR Okay, the evening status report. Let me give you Foxtrot first.

CC Okay, go ahead.

CDR CDR ate everything.

CC Good.

CDR And he used no salt.

CC Roger.

CDR The SPT didn't eat his bread or jam for breakfast, nor his bread and ambrosia for dinner, nor his coffee and one butter cookie. He used no salt, and that's it.

CC Roger, got that.

CDR The PLT did not drink his coffee with

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breakfast, nor did he eat his bread with dinner, and he did not eat his peanuts or coffee for snacks. And he had two optional salt packages.

CC Okay, got it.

CDR Photo log, day 148, 16 millimeter M151-M092/171

CIL-2 OOMTL2. (Garble) The CIL2 was back at C-3 and that's it.

CC Okay, got that.

CDR (Garble) percent of the film, Joe says because they're a lot slower getting it done.

CC Roger.

CDR Flight plan deviations - none. Times we're running low longer. I don't see any constraints other than we took on a lot to do today with your extra goodies. No stowage item changes except as reported on B channel and no inoperable equipment except as reported on B channel. And the only flight plan item not accomplished today that was supposed to be was SMMD CAL and let me get a reading on that.

CC Okay.

CDR And Joe is going to do that tonight.

CC Okay, we'll do that tonight. Very good.

CC And be advised we're going to reset a TACS attitude C&W light that was inhibited during the TRIM maneuver awhile ago. And you got anything else on the status report?

CDR No sir, it's been another long day and I think we look forward to the orbital OPS tomorrow. I hope we can speed up our own time line. I can't really put my finger on why we're so slow, but part of it is being absolutely sure that we're doing it right.

CC Roger. I understand Pete, and we're quite satisfied. The one bit - the last note that I have here - getting back to the command module fuel cell purges is - in a checklist - in a systems checklist on page 4-1, on the four day checks, CM-4 - HK CM-4, the very last line under that says perform two-days systems checks and it is a little bit confusing. But on the 4-day checks we want you to purge both O2 and H2. So if you did miss that, we need to get an H2 purge this evening. I'm sorry - an O2 purge this evening.

CDR Okay, I got that pretty late last night and I was pretty foggy, so I guess I missed the O2 part of it. I'll give her an O2 purge tonight and then we understand that, from now on.

CC Okay, good, we'll be back on schedule.
Standby one.

CC And Skylab, Houston. We're going to - we're doing a MOMENTUM DUMP now and it appears the way it's going that we probably will lose - that we probably will lose track on the star track of the star, so I wanted to give you

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the star and the gimbal angles so that you can reacquire the star-tracker for us when you get out into daylight. Over.

CDR Fire away.

CC Okay. It's Canopus; INNER GIMBAL, minus 0680; OUTER GIMBAL, plus 1670.

CDR Okay. Canopus; INNER, minus 0680; OUTR, plus 1670.

CC Roger. That's correct.

CC Incidentally, guys, we're about a minute and 20 seconds away for LOS. We'll see - you'll have a Vanguard pass, medical conference at 03:21 and we've been watching TV today and it sure looks like fun the way you guys have been moving around up there.

CDR It's a real blast. Let me tell you.

CC Well, Hank's been kind of hogging the mike for the last couple of days but everybody's been watching you and we all wish we were there.

CDR Well, once we figured out we weren't going to get sick it's been (garble) and we've done a little ricocheting off the walls but, I still hold the record for some spectacular guidos. I won't call them control, but we sure has been getting around in here.

CC Roger that.

PAO This is Skylab Control, 01:52 Greenwich mean time, LOS at tracking ship Vanguard at the start of Skylab revolution number 208, 56 minutes to Hawaii. Over Vanguard, Skylab Commander Pete Conrad said that he had a possible sighting of the S-II booster stage using binoculars. He didn't report whether or not it was from the wardroom window or from some of the other openings and hatches in the Skylab cluster. In the food report, Conrad said that he ate everything, except that he didn't put - use any salt. Also, during the runs, by the Science Pilot and Pilot, of the M092 and M-171 experiment combination they did take some 16 millimeter motion pictures. That was part of his film usage report. Back in 55 minutes for the final Hawaii pass of the evening. And at 01:54 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-218/1

Time: 21:49 CDT 149:02:48 GET
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PAO This is Skylab Control 2 hours 48 minutes Greenwich mean time. About 30 seconds out of Hawaii for what is scheduled to be a medical conference pass. However, the circuit may be turned back over to the Capcom for a portion of this pass. We'll stay up with the circuit in case there is some conversation between the Capcom and the crew of Skylab. A 7-1/2 minute pass. It should be the final one of the evening before the crew goes to bed. Skylab Control standing by.

PAO This is Skylab Control 2:57 Greenwich mean time. Apparently, the medical conference took the entire Hawaii pass with no operational air-ground. The crew at this time is scheduled to begin their sleep period, looking forward to a day of science investigations tomorrow. Next station, Vanguard tracking ship in 22 minutes. At 2:58 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-219/1

Time: 22:21 CDT 149:03:20 GET

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PAO This is Skylab Control at 3 hours 20 minutes and 44 seconds Greenwich mean time. We're 22 seconds from acquisition of signal at Vanguard. It is believed that the crew may have gone to sleep by now. The last pass at Hawaii was taken up with a medical conference. And we may hear something here from, from the crew. Because it is possible they are still awake. The medical conference was entirely confidential. We heard no sound at that time. We have 3 seconds until acquisition of signal.

CC Skylab Houston. We're AOS at Vanguard. We've got you for about another 5 minutes and Chuck said that you might want to have something to say to us.

CDR Yeah. We had a failure on the secondary loop that you turned on. We've taken command of it. I believe you had - I don't which pump you had on, but you had it - the number 1 inverter on. It blew the breaker.

CC Roger, copy.

CDR Okay, let me give you the configuration we're in right now, and you can command it up if you want, and we'll give it back to you and then you can play with it.

CC Okay, fine. We did notice that we were on pump Bravo. We were going to ask you a question about that in the morning. Go ahead.

CDR Okay, we're on 2VC pump Bravo and let me know when you've got it commanded and I'll go put her back to command for you.

CC Roger that. Stand by.

CDR Also we have not reset the circuit breaker. And we'll stand by on your word.

CC Okay.

SPT Hey, Houston, SPT. Can I transfer a couple of comments?

CC Yes sir, go ahead.

SPT Okay, just catching up on some pads. I noticed your CMG number 3 wheel speed is erratic on the ground. It's not erratic up here, it is just flat zero. So it does (garble) transducers.

CC Roger, and after we transmitted that message, PLT, it went to flat zero down here too.

SPT Okay. The (garble) copying changes for the ATM checklist and cue cards. And you have one for the darkside prep that says after you power up the (garble) loop gyros wait 90 seconds. And I wondered for what? Because all you're doing is configuring another experiment which is (garble) in 90 seconds (garble).

CC Roger, stand by.

CDR Okay, Houston the other thing is the

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Time: 22:21 CPT 149:03:20 GET
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the waste tank has been dumped to 15 percent.

CC Roger, thank you.
CC And a quick answer on the APC rate gyros. That was just in the event that we had not got them on the line, that was 90 seconds for spin-up time. And also on that, be advised we were - there is another checklist change, it's going to be coming up tonight on the EREP checklist. And it goes in about 2 or 3 places in the checklist. So we're going to transmit this one message 3 times tonight. And so in the morning when you get it it's just so that you can cut and paste instead of write.

CDR Okay.
CC We just figured - -
CDR I've got one other thing for you.
CC Okay, go ahead.
CDR Some time tomorrow at their convenience, I would like to get into a private comm with the Flight Director, Mr. Craft, and Mr. Slayton. It's not (garble) any emergency right now.

CC Roger, understand Pete, will do.
CDR Just any time tomorrow.
PLT Hey, Richard.
CC Go ahead.
CC Before you - -
PLT I haven't had a chance - -
PLT I haven't had a chance to look it up yet. I see one thing I got tomorrow's EREP mag. Is that loading up the magazines of the new cassettes we brought up?
CC That's affirmative Paul, and if you - and we are ready to do our commanding. So if you'll go off and then command, we'll go ahead and do our commanding on the coolant loop.

PLT Hear that Pete?
CDR Yeah.
CC And we do not want to reset the circuit breaker now.

CDR Roger.
CC And we're about 50 seconds from LOS here at Vanguard. We'll see y'all in the morning. Our first voice comm pass is about 25 or 30 minutes after you wake up.

CDR Okay, we look real good. We're going to bed in about 15 minutes. I think we're slowly cranking it around to the right schedule.
CC Hey, sounds real good. See you tomorrow.
CDR Bye bye, have a good night.
CC Same to you. Good night.

SL-II MC-219/3

Time: 22:21 CDT 149:03:20 GET
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PAO Skylab Control. We have 21 seconds to loss of signal and the space ship communicator has said good night for the evening and the crew has also said good night. There is some indication that the pilot, Paul Weitz, has requested a private conversation with Astronaut Director Slayton, the flight director, and Gene Krantz, the head of the Flight Crew Operations Division, for tomorrow and that he indicated that was not in regard to any sort of an emergency. But he did request a conversation of that sort. And they will take that under advisement here and Flight Control will try to give you a report on that a little bit later. This is Skylab Control. We've had loss of signal now at Vanguard. Our next pass is at Ascension in about 5 minutes and 20 seconds. We don't expect to hear from the crew at that time. They should be now going to sleep. Again they are a little bit behind schedule, about 30 minutes after the hour. This is Skylab Control.

END OF TAPE

SL-II MC-220/1

Time: 23:08 CDT 149:04:06 GET

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PAO Skylab Control at 4 hours 7 minutes Greenwich mean time. We have a brief statement now from Dr. Hawkins on the private medical conference that was held over the Hawaii pass during the last revolution. And the statement is this: "The Skylab crew feels in good condition and has no complaints. The pilot had no physical complaints today during M092. That's the lower body negative pressure experiment. And M171, the metabolic activity experiment. But, because of the elevated temperatures still existing in the orbital workshop it was decided by the science pilot not to have the pilot finish the highest workload of the M171," signed Dr. Hawkins. I want to explain a little more in detail. The M171 metabolic activity experiment requires very heavy workloads in bicycling, much higher than we would experience normally on Earth in bicycling. These considerable strains do tax the system a great deal. It was decided by Dr. Kerwin that this would probably not be a good idea in view of the high temperatures. But the pilot himself, Paul Weitz, who was doing the experiment, said that he did not feel in any way uncomfortable and he would have been willing to go on to a higher level. So, that's an explanation of what happened tonight at the private medical conference over the Hawaii pass during the last revolution. This is Skylab Control at 4 hours 8 minutes and 24 seconds Greenwich mean time.

END OF TAPE

SL-II MC-221/1

Time: 23:24 p.m. CDT, 149:04:23 GET
5/28/73

PAO Skylab Control. We had a brief interchange here with the crew - there was a question on a light being out in the tape recorder and they asked if the data was being dumped there using that tape recorder and if the light should have been out, and the answer from the ground was no it was not and did not seem at this time to pose any kind of a problem and that's the end of the conversation at Guam, although there is still acquisition of signal there. We'll see if we can't get some answers for you on why - what the problem was and get back to you a little bit later. This is Skylab Control signing out again at 23 minutes 56 seconds after the hour.

END OF TAPE

SL-II MC-221A/1

Time: 23:24 p.m. CER, 149:04:24 GMT
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CC Skylab, Houston. Did you call?
SC Yeah. This is SPT. I was tape recording
this (garbie) noticed that my record light was out. Did
you guys dump the recorder?

CC Stand by for just one second.
CC SPT, Houston. Negative. We're not
dumping the data tape recorder.

SC Okay. Maybe I knocked it off with my
elbow or something.

CC Okay, Joe. See you. Good night.
SC Good night.

END OF TAPE

SL-II MC-222/1

Time: 23:53 CDT, 149:04:52 GET

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PAO Skylab Control at 4 hours 52 minutes and 33 seconds Greenwich mean time. At the present time we're a little over 5 minutes from acquisition of signal at Vanguard. We do not expect to hear from the crew again although we were surprised to hear from them at Guam just a short time ago. At that time, during the last communication with the Skylab space station through that Guam tracking station, Dr. Joseph Kerwin, who had apparently not yet retired for the night although he was expected to have retired somewhat earlier, called Mission Control to ask if we had commanded the voice tape recorder to transmit all of its data, thus turning off the light on the recorder. When the tape recorder is playing back its message to a ground station, the green light that shows it's ready for recording a message from one of the astronauts turns off, since it's not possible to record during playback. Kerwin was told by spaceship communicator Richard Truly that no playback command had been sent back from the ground to which Kerwin had replied that he must have accidentally hit the switch and turned it off himself. He checked with Mission Control to keep from interfering with any playback that might have been taking place over Guam. At the Vanguard pass, shortly after 10 p.m. central daylight time, Mission Control was informed that a circuit breaker had popped on one of the pumps in the secondary coolant loop. Both coolant loops are in operation tonight to bring temperatures down more quickly than has been the case during the day. When the circuit breaker, which is similar to a fuse, broke the electrical connection to the pump operating in the secondary coolant loop, just before the crew was preparing for bed, Flight Director Charles Lewis instructed one of the other two pumps in the coolant loop to be turned on in place of that pump that had caused the problem. This malfunction is going to be looked into tomorrow morning when the crew is bright and alert. It is not of course a serious problem. There are three pumps any one of which is sufficient to run a coolant loop. There are two sets of coolant loops, normally, only one of those would be in operation. In the meantime, both coolant loops are functioning properly and temperatures, which have declined only fractions of a degree during each of the past several hours, are coming down a little bit faster. At the present time most of those temperature transducers in the orbital workshop are reading in the vicinity of 85 degrees. The highest temperature reading anywhere in the orbital workshop is in the - on the ceiling of the experimental compartment. That has generally been a rather high temperature reading. It's now reading 91.9. The lowest temperature reading in that orbital workshop area at one of the duct inlets is at 81.8. As

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Time: 25:53 p.m. CDT, 149:04:52 CET
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I said, the average, though is about 85 degrees right now and coming down by about a fraction of a degree an hour. This is Skylab Control at 55 minutes after the hour.

END OF TAPE

SL-II MC-223/1

Time: 00:12 CDT 149:05:12 GET

5/29/73

PAO Skylab Control at 5 hours 12 minutes and 13 seconds Greenwich mean time. We have acquisition of signal again at Ascension. We are not expecting to hear from the crew at this point. But, we did come up to bring a correction to something said earlier. During our last pass at Vanguard on an earlier revolution shortly after 10:00 p.m. central daylight time today, a private conversation was requested by Commander, Pete Conrad. I mis-spoke earlier in saying that that request had come from the Pilot. It did come from Commander Pete Conrad. And he requested a private conversation with Center Director Chris Craft. This is the information given to us by spacecraft communicator Richard Truly. He indicated that the Center Director Christopher Craft, Deke Slayton, the head of the astronaut corps, and a Flight Director would be asked to participate in this private conversation. No time has yet been set for that private conversation, although some time during the evening it is expected that Flight Controllers will determine a time and send that up with details for the Commander on the teleprinter. So Pete Conrad had that request a little after 10:00 did not indicate the reason for the private conversation. But did say that it did not concern any kind of emergency. This is Skylab Control, we still have acquisition of signal at Ascension. Those temperatures are still hovering around 85 degrees. We don't expect any noticeable difference over night. Although they are coming down and may be several degrees lower in the morning. Both coolant loops are functioning properly at this time. Skylab Control at 13 minutes and 52 seconds after the hour, air-to-ground will still stay live.

END OF TAPE

5/29 0 0148.15

SL-11 MC-22+1

Time: 01:00 CDT, 149:06:00 GET
5/29/73

PAO Skylab Control at 6 hours and 5 seconds Greenwich mean time. At the present time the spacecraft is on revolution number 210, a descending node over the Guam tracking station almost directly over Guam at this time, and it's passing to the southeast. And the spacecraft has had no additional problems. We've had no record of any changes. Temperatures continue to drop very, very slowly a fraction of a degree an hour. And we expect no further contact with the crew. We do not know, at this time, where the crew is sleeping. We do have a sleep monitor on board in the orbital workshop and that operates only when the crew is sleeping in the orbital workshop. We haven't gotten any data back yet that the medical people say is valid data so they don't any indication that they are sleeping in the workshop. But it's possible that that equipment is not hooked up, so it's right now it's not known for certain whether they're sleeping in the multiple docking adapter or not, although that is rather suspected right now. This is Skylab Control at one minute and four seconds after the hour.

END OF TAPE

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SL-II MC-225/1

Time: 02:22 CDT 149:07:22 GET
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PAO Skylab Control at 7 hours 22 minutes and 17 seconds. At the present time the spacecraft is traveling over the Soviet Union on revolution 211. It's traveling 25,087.6 feet per second. Has a maximum point at its altitude at 239.8 nautical miles, the low point of its altitude is 233.6 nautical miles. The crew is believed now to be sound asleep, although we have no medical data to confirm that. The crew - it is not known where the crew is sleeping. It's believed that they may be sleeping either in the multiple docking adapter or in the orbital workshop. There is equipment in the orbital workshop that allows us to monitor them medically as they are sleeping in their sleeping compartments, but that equipment may or may not be hooked up properly tonight. And, in any case we don't know whether they are in the multiple docking adapter or not. This is Skylab Control at 23 minutes and 17 seconds after the hour.

END OF TAPE

SL-II MC226/1

Time: 03:02 CDT, 149:08:02 GET

5/29/73

PAO Skylab Control at 8 hours 2 minutes and 5 seconds Greenwich mean time. At the present time the Skylab spacecraft is at the lowest point in its orbit, closest to the south pole and beginning an ascending node of the 212th revolution. At the present time in Mission Control they are doing some flight planning for tomorrow, trying to plan the electrical usage to keep power properly balanced between experiments and maintenance of various hardware on the spacecraft. The experiments tomorrow include the first major operations of ATM experiments. There will be two checkout periods with manned - during the first two revolutions - with a man on the ATM console and the multiple docking adapter, and that will begin normal operations of that Apollo telescope mount, the solar telescope at 17:55 Greenwich mean time, that's 11:55 central daylight time. At this time there will be a - both synoptic - which are direct full view of the Sun - experiments and also some study of structure of active regions. This will involve all of the major experiments on the solar telescope, including S052, S054, S055A, S056, S082A and S2B, and the H-Alpha 1 experiment. H-Alpha 2 may also be used, that is a device used for pointing and it's entirely up to the crew to decide whether or not they wish to use that. During the day tomorrow the ATM experiment will be used both by - both in the manned mode with a man operating the solar telescope from the console, it will also be operated in the unattended mode with no one operating on the console, set up so that it can operate on its own. Later in the mission, near the end, there will be an EVA to retract - take film out of that ATM. That will be done - the film will be replaced at that time. So as the planning goes on here at Mission Control, the spacecraft continues to function properly. We've had no difficulties during the night. And this is Skylab Control at 4 minutes and 19 seconds after the hour.

END OF TAPE

SL-II MC-227/1

Time: 04:00 CDT, 149:09:00 GET

5/29/73

PAO Skylab Control at 9 hours Greenwich mean time. At the present time the orbital workshop is traveling smoothly along its course on revolution number 212. Now passing over India as it heads towards the southeast end of the Indian Ocean. At the present time the spacecraft temperatures have come down a little bit below what they were earlier in the evening. The highest temperature reading now on any of the temperature transducers in the orbital workshop area is 90.0 degrees. The lowest temperature on any of those readings is 79.9 at a coolant loop. The highest temperature reading was at the - again at the ceiling of the experimental compartment. The median temperature in that orbital workshop is approximately 83 to 84 degrees. So it is cooling off although the rate of cooling is much slower than what we've seen earlier. This is to be expected as we get closer to that proper level of temperature. Pressure continues at an even 5 pounds per square inch. Oxygen content of the atmosphere is 73 percent right now. It varies from approximately 72 percent to 80 percent. At this time both the coolant loops are operating in an attempt to cool down the workshop. And they are working successfully, although there was a circuit breaker out on one of the pumps last night. They switched over to one of the other pumps available on that secondary coolant loop and that's operating properly. They will look into the problem of the first circuit breaker popping and we'll see what the problem is tomorrow morning. At this time there is consideration of an EREP pass possibly on day 6. That's under consideration, although there's no definite information on that yet. Tomorrow will be a day occupied with both medical experiments and the ATM experiments. They will complete setting up the ATM and there will be again performance of the M092 and M171 experiments - that's the bicycle ergometer experiment and also the experiment of lower body negative pressure. This is Skylab Control at 2 minutes and 9 seconds after the hour.

END OF TAPE

SL-II MC-228/1
Time: 05:00 CDT 149:10:00 GET
5/29/73

PAO Skylab Control at 10 hours Greenwich mean time. At the present time the spacecraft is just about to begin on its 213th revolution about the Earth. This is the last revolution of the sequence and then it repeats the groundtracks beginning with groundtrack number 1. The 214th revolution will begin at exactly the point - or roughly at the point that the first launch took place and, as you know, the groundtrack now has slipped approximately 59 miles to the west of its original groundtrack. No difficulties have arisen so far on the Skylab in the overnight period. We expect to see the crew awakening in a little less than an hour. They'll be awakened - first call will come at about 30 seconds after 6 o'clock, first opportunity at Honeysuckle over the Australian coast. This is Skylab Control at 57 seconds after the hour.

END OF TAPE

SL-II MC229/1

Time: 05:35 a.m. CDT, 149:10:55 GMT
5/29/73

PAO Skylab Control at 10 hours 55 minutes and 3 seconds Greenwich mean time. The first wakeup call from spacecraft communicator Dr. William Thornton is expected to come just after 6 a.m. central daylight time as the Skylab space station comes within range of the Australian tracking station at Honeysuckle Creek, just outside the capital city of Canberra in the rolling hills of southeastern Australia. Today's busy schedule is highlighted by the first operation of the solar telescope or ATM for Apollo telescope mount. After an extensive checkout of the equipment scheduled for 8 a.m. until about 10:30 a.m. central daylight time, Dr. Joseph Kerwin will sit at the control and display console for the ATM which is down in the multiple docking adapter. The ATM experiments, solar telescope experiments, will be operated both with a man at the console and also will be operated in the unattended mode. They are set up to operate automatically. Both those modes will be used today. The lower body negative pressure experiment will be performed for the second and third times today. This test with commander Pete Conrad as subject in the morning and Dr. Kerwin as subject in the afternoon is providing data on the redistribution of body fluids in a weightless environment. Yesterday Dr. Kerwin noted that Paul Weitz's calf measurement was 1/2 inch smaller than it had been on Earth and that it increased in size twice as much as had been the experience on Earth, when the atmosphere was pumped out of the negative pressure chamber. This lends support to earlier hypothesis that fluids move out of the legs and are distributed when gravity doesn't provide resistance to the flow of blood back toward the heart. Both Conrad and Kerwin will also exercise on the bicycle-like ergometer. Much of Paul Weitz's day will be spent testing and setting up the earth resources experimental equipment. Weitz will load film, check cameras, tape recorders and also check out the control panel located near the much larger ATM panel and the docking adapter at the forward end of the space station. The earth resources experiment equipment may get it's first use if weather conditions remain good on Wednesday afternoon. The Wednesday overflight is planned to follow ground track number 20 which begins on the Pacific coast in southern Oregon, travels across Nevada, Utah, Arizona, New Mexico, Texas, the Gulf of Mexico, Central America, Columbia and ends in Brazil where the Sun becomes too low (that is below 20 degrees sun angle) for high quality photography. Flight planners have indicated that the crew should be sleeping tonight in their specially designed wall hung sleeping bags. And Dr. Kerwin should wear for the first time a sleep monitoring device so that medical personnel can gather information on

SL-II MC229/2

Time: 05:35 a.m. CDT, 149:10:55 GMT
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sleeping patterns in space. Brain waves and eye movements are used to reveal seven stages of depth of sleeping. Temperatures in the orbital workshop have declined slightly over night. At the present time the highest reading is 89.0 degrees, that's in the scientific compartment on the ceiling and the lowest temperature at one of the inlet ducts is 79.4 degrees. Most of those temperatures are now reading approximately 83 degrees. There is a range there but most of them are around 83 degrees. So it'll be a busy day of experiments. During the night flight planners have been very busy in Mission Control attempting to balance the dozens of different requirements of experimenters and experiments, each experimenter listing his own requirements for time of day of operation, amount of time required, and the special conditions. They also have the problem, of course, of balancing the requirements for electrical power. There have been several plans introduced now to reduce requirements on use of heaters and so forth. None of these, of course, impact any experiments but originally it was thought that some of these things could be left out permanently. We expect to have acquisition of signal at Honeysuckle Creek in about 1 minute and 12 seconds and shortly after that we should hear a call from the spacecraft communicator. This is Skylab Control and we will stay alive for a call in approximately 1 minute.

PAO We've had acquisition of signal now at station and we should hear a call at any moment from spacecraft communicator.

CC Skylab Houston AOS for two minutes.
Gentlemen start your engines.

SC GARBLE commence ships work.

PAO Skylab Control we have lost data and acquisition of signal at the Honeysuckle tracking station. We will not hear again from the crew although they did wakeup a few minutes ago. We won't hear from the crew until we reach the Texas-Corpus Christi tracking station and that will take place in a little under 28 minutes. This is Skylab Control at 6 minutes and 14 seconds after the hour.

END OF TAPE

SL-11 MC-230/1

Time: 06:32 a.m. CDT, 149:11:32 GMT

5/29/73

PAO Skylab Control, Houston, at 11 hours
33 minutes Greenwich mean time. Coming up now on acquisition
of Skylab through Texas. The crew aboard Skylab awakened
during the pass over Honeysuckle. We'll stand by now and
monitor any conversations which might develop over Texas
and the States.

CC Skylab, Houston. AOS for 15 minutes.

SC 15 minutes?

CC That's affirm.

CC If the SPT is listening, we have a message

aim.

SC He's strapping his foots into the body mass
measuring device right now, and he's therefore listening. So
ahead.

CC Oh. I wouldn't dare disturb a thing
like that. But I'll read the message anyway.

SC Hey, Bill.

CC Yeah. Go.

SC We've got a question for the camera
people. We've got some 35-millimeter film in the nycon we
launched with. Whatever roll it was. And we apparently
do not have the empty cassette. Now if we start swapping
cassettes, I think everybody's going to get all fouled up. I'd
like to propose that (garble), that we take that - when we
change that film out, that we wrap it with several layers
of this heavy silver foil tape we've got here, and kind of make
it bowed cassette.

CC Copy that. And I'll confirm that's
agreeable down here.

SC Okay.

CC Paul, can you take a ATM message at this
time?

SC Say again, Houston.

CC Can you take an ATM message at this time?

SC Not right now, Bill. I'll give you a
call in a minute.

CC Roger.

PAO Skylab Control, Houston; 11 hours
42 minutes Greenwich mean time. The crew aboard Skylab
now awakened. The space station continuing in its stateside
pass, presently under acquisition through Mila. Very little
conversation - -

SC Yes, Bill, why don't you go ahead with
the ATM message. I'll copy it down for Joe.

CC Okay. Prior to ATM checkout on panel
203, ATM C and D, coolant loop activation. ATM COOLANT
PUMP A, switch on; run the loop continuously until further
advised.

SL-II MC-230/2

Time: 06:32 a.m. CDT, 149:11:32 GMT
5/29/73

SC Okay. And I ran that loop yesterday and
changed the filter out (garble) A-2.

CC Okay. On the ATM schedule pad for 05149,
change RL0000 D00 L400, change that to KL10800, U plus 400,
R plus 400.

PAO That's CAP COM Bill Thornton reading
numbers to Commander Pete Conrad aboard the Skylab. One of
the first items to be done this morning by Spacecraft
Commander Conrad is the onboard checkout of the Apollo
telescope mount. That's what they're talking about now.
We're at 11 hours 45 minutes Greenwich mean time, and this is
Skylab Control, Houston.

SC Houston, SPT.

CC Go, SPT.

SC What's the GMT associated with that
change on the ATM schedule pad.

CC Stand by.

END OF TAPE

SL-II MC-231/1

Time: 06:46 a.m. CDT, 149:11:46 GMT

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CC SPT, that's 14 43.
SC Thank you.
CC PLT, wrap the film as you described and
we'll get you a stowage location for it later.
SC Okay.
SC Bill, did you get to look at the data on
your (garble) decal?
CC Yeah. We're going to have to repeat some
of that.
SC Some of the logging or some of the do it?
CC Say again.
SC Repeat the logging or the operation?
CC Repeat the operation.
SC Okay. It looks pretty good to me except
for one data point which started at a momentum dump. I read
you those numbers anyway. And then the 900 gram point, which
I don't understand, ah, under 1 into 1 of waste management
compartment, I have no idea of what happened. Do you?
CC No. It's just a catastrophic failure.
One of those things. Listen, we never did get the data down
on the M074. I was referring to M172.
SC Oh. Yeah, okay. M074 according to Pete
late last night.
CC Oh, okay. Thank you. Listen, we have one
more - before LOS - we have one more for you here. It's on
the - involves the S05 for high voltage. Do not enable image
dissector or high voltages. Hence, the image dissector switch
remains off.
SC Hold it, Bill.
CC (Garble)
SC Okay, now go ahead. I have the copy (garble).
CC Roge. This is S05 for high voltage. We
do not want the image dissector or the high voltages ENABLE.
Hence, the image dissector switch is off - remains off. Photo
multiplier enable switch remains off. And the pressure in the
canister is too high for safe operation at this time. We're
going LOS here in about 30 seconds. We'll -
SC Are you still there?
CC That's affirm.
SC Okay, I just wanted to tell you that because
of the failure in the waste management SMMD, we're not weighing
feces at the moment.
CC You're not. We copy that. Also, we'll
have you at Madrid at 11:54.
PAO Skylab Control, Houston. We've had loss
of signal. The next station to acquire, Madrid, in some 3 min-
utes and 20 seconds. The last item discussed was the measuring
device used to measure various specimens. And which appeared
we had a failure yesterday in the one situated in the waste
management compartment. That's been CAP COM. Bill Thornton,
talking to Science Pilot, Joe Kerwin.

SL-II MC-231/2

Time: 06:46 a.m. CDT, 149:11:46 GMT
5/29/73

PAO Skylab Control, Houston. Less than a minute away now from acquisition through Madrid. Joe Kerwin, the science pilot, will be the crewmember involved in the Apollo telescope mount checkout. Pete Conrad earlier took the message from CAP COM, Bill Thornton, the various numbers and settings which will be used in the checkout. We're at 11 hours 54 minutes Greenwich mean time, continuing to monitor. This Skylab Control, Houston.

CC Skylab, Houston. AOS for 7 minutes.

CC Skylab, we're preparing to dump the voice recorder at this time.

SC Roger.

CC Skylab, Houston. We'll be LOS in about 30 seconds. We'll see you at Carnarvon. And the urine chiller number 1 temp, it increased about 56 degrees during the night. But we note that this has been dropping for the last few minutes.

SC The what had increased, Bill?

CC The urine chiller number 1 temperature.

SC Okay. I believe that was my fault, Bill. When I got up this morning, I found the blower running.

CC We copy.

SC And I think I left it on in the night - middle of the night last night (garble).

CC Thank you.

PAO Skylab Control, Houston; at 12 hours 3 minutes Greenwich mean time. We've just had loss of signal through Madrid. The next station to acquire Skylab is Carnarvon in some 27-1/2 minutes. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-232/1

Time: 07:29 a.m. CDT, 149:12:29 GMT
5/29/73

PAO Skylab Control, Houston, at 12 hours
30 minutes Greenwich mean time. Less than a minute away
now from acquisition through Carnarvon of Skylab, now on its
214th revolution. Meanwhile, we're looking at temperatures
inside the workshop that read as follows: ambient tempera-
ture in the cabin 88 degrees Fahrenheit, the food locker
temperture's 90.5 degrees Fahrenheit, and the film vault
88 degrees Fahrenheit. At this point, we don't know, with
certainty, where the crew spent the night during their
sleep period. However, it is felt certain that it was not
in the command module. Coming up now on acquisition through
Carnarvon. Standing by, this is Skylab Control, Houston.

CC Skylab, Houston. AOS 3 minutes.

CC LOS in 1 minute. AOS at 12:41 Honeysuckle.

PAO Skylab Control, Houston, at 12 hours
35 minutes Greenwich mean time. We've had loss of signal
through Carnarvon. Honeysuckle will acquire in approximately
6 minutes.

PAO Skylab Control, Houston, at 12 hours
40 minutes Greenwich mean time. Less than a minute away
now from acquisition of Skylab through Honeysuckle. We'll
stand by.

PAO This should be a very short pass, a bit
over 1 minute in duration.

CC Skylab, Houston through Honeysuckle
1 minute.

SC I finally worked the (garble).

CC Roger.

SC We seem to be pretty well on the time
line, and we're just listening to a little good country music.

CC Well, didn't hear that. There's a lot
of music in the background. But, in any event, we're about
15 seconds from LOS; Texas at 11.

SC I said we were on the time line, and
we were just listening to a little country music.

CC Roger. It sounds great.

PAO Skylab Control, Houston, at 12 hours
43 minutes Greenwich mean time. We've had loss of signal
through Honeysuckle. The next station to acquire will be
Texas in some 28 minutes. Meanwhile, in the Mission Control
Center, we've had a changeover, and CAP COM Astronaut
Henry Hartsfield now filling that post. You heard him
speak briefly to Pete Conrad aboard Skylab, who reported they
were right on the time line and listening to some country music,
which we could hear in the background. When we pick up again
over Texas, it's quite likely that the earth resources experiment
package, which - the activation of which is scheduled for
today - the activation very probably will have started. This

SL-II MC-232/2

Time: 07:29 a.m. CDT, 149:12:29 GMT
5/29/73

involves Commander Conrad and Pilot Paul Weitz. Meanwhile, at the same time, Science Pilot Joe Kerwin will be involved in the Apollo telescope mount checkout. We're at 12 hours 44 minutes Greenwich mean time, and this is Skylab Control, Houston.

END OF TAPE

SL-11 MC-233/1

Time: 08:09 a.m. CDT, 149:13:09 GMT
5/29/73

PAO Skylab Control, Houston, at 13 hours
10 minutes Greenwich mean time. Standing by now for acquisition of Skylab through Texas. We presently show Skylab in an orbit of 239.5 nautical miles by 233.7 nautical miles. Standing by now for the callup from CAP COM, Henry Hartsfield.

CC Skylab, Houston. Stateside for 16 minutes.
SC Hello, Houston. We've got (garble) for an
(garble) alpha.

CC Roger; copy.
SC Just started the checkout, Houston, and
I've advised H-alpha TV turn on, page AVS-2.

SC Houston, CDR.
CC Go ahead.
SC You'll be happy to know that you got good
EREP tapes. One through four are perfect. Could you tell me
the reason why you think seven is bad. I haven't looked at
it, but I marked it as bad - per pad.

CC Okay, let me get an answer on that, Pete.
SC Okay. Because the ones through four are
perfect. They look just as good as anything I've seen, and
they have nothing like the pictures that were shown of heated
tape.

SC Hey, Houston; PLT.
CC Go ahead.
SC I'm starting off behind him and doing a
list of this film-threading jazz. It is completely screwed
up. When I get done, I'll either tell you or put on tape
what our configuration is and where we stand. And, also, I
think it's unreasonable to expect that the pads that were
laid on today - threading the cameras and activating all the
others - to be done during the normal postsleep period.

CC Roger; copy.
SC Houston, SPT.
CC Go ahead, SPT.
SC Okay, (static) it's a beautiful picture.
H-alpha 1 of one is very good, too. It's got excellent detail.
However, in the (garble), you notice a continuous jiggling.
That's - I'll time quantitate it for you later, but it's number
(garble) second (garble) 1-second cycle; it's moving.

CC Roger; copy.
CC Yeah. Yeah, he said he was having problems.
CC I got FLIGHT.
CC Go ahead, (garble).
CC Yeah, it's to get him a time. There's
not enough time there to do it right. Yeah. Yeah. Go ahead.
You'll have to speak up. I can't read you at all.

SL-II MC234/1

Time: 08:28 a.m. CDT, 149:13:28 GMT
5/29/73

PAO Skylab Control, Houston. We've had loss of signal. Madrid is the next station to acquire in approximately 4 minutes.

PAO Skylab Control, Houston; 13 hours 32 minutes Greenwich mean time. Standing by now for acquisition with Skylab through Madrid.

CC Skylab, Houston, through Madrid, 9 minutes.

SC Hello, Houston.

SC Hi Houston. CDR, both tape recorders are loaded, just about to check them out.

CC Roger. Copy.

SC Houston you want me to tell you now in real time what our 16 millimeter configuration is or put it on tape.

CC That's your choice, Paul, which ever is easiest.

SC Okay, if you'll get out the film strips and let me go GARBLE.

SC Houston, SPT.

CC Go ahead.

SPT The XUV monitor in main position number 7 has just barely began to detect GARBLE and normal background features the - one feels that one needs about four more gain positions to do the job properly. When can I show you these.

CC We'll have to schedule that up, Joe, we'll let you know.

SPT Okay.

CC And PLT we've got the film prep pad.

PLT Okay. Here's what it is right now. The first line on transporter 02 is as advertised on the pad. The second line, now transporter A1 is bad and was reported as such by Dr - by the PS what's his name, yesterday as is takeup to fit MT01, therefore, the second line now reads transporter 03 and the takeup reel is MT10. That's MT10. And the third line, everything is as advertised except the takeup reel is MT11 that's 11. The redoing of panel 11 was because the straps aren't marked Hank, and I figured it didn't make any difference - I took the first two empty reels I came to.

CC Roger. Copy.

PLT And also for information, GARBLE GARBLE they all threaded beautifully this morning. I don't know if that procedure on pulling the film - everything you did must have worked - but no sweat.

CC Okay. That's good news.

SC Houston, the CDR wants to know if you're going to send him an S009 pad.

SL-II MC234/2

Time: 08:28 a.m. CDT, 149:13:28 GMT

5/29/73

SC GARBLE delay this Houston.
CC Skylab, Houston for the CDR. You're
private comm request is set up on Honeysuckle. Next pass at
18.

SC GARBLE 18.
CC Did you copy that, Bill?
CC Skylab Houston for the SPT. On the XUV
monitor did INTEGRATE help any at all?

SC Yes. INTEGRATE helps a lot except that
the view you get is so brief that I really can't make out
detail such as small bright areas that we hoped we were going
to be able to see. The larger features do come in better.
My optimum integration looks to me to be about 3 seconds but
I sure would like to give this stuff now and I'd like for the
experts to look at it also.

CC Roger. We're trying to schedule that.
SC Okay.

SC Say, Hank. I put a message on B channel
about the EREP tape recorder checkout - It was just a little
funny, it doesn't mean anything - it's just something I wanted
to note and tape recorder 1 checks out okay.

CC Roger, copy. And we're about 30 seconds
from LOS. Honeysuckle is coming up at 18.

SC Roger.

TAO Skylab Control, Houston, at 13 hours
42 minutes Greenwich mean time. We've had loss of signal over
Madrid. The next station to acquire - Honeysuckle - in some
36 minutes. Meanwhile a decision has been made to hold a
private conversation requested by commander Pete Conrad at
approximately 10:30 p.m. CDT last night. This will take place
over the next station contact, Honeysuckle. The communication
will be with Johnson Space Center Director, Chris Kraft,
Director of Flight Crew Operations at JSC, Donald K. Slayton
and the on-duty Flight Director, Neil Hutchinson, as requested
by Conrad yesterday evening. A summary of this conversation
will be released. We're at 13 hours 43 minutes Greenwich
mean time and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-235/1

Time: 09:17 a.m. CDT, 149:14:17 GMT
5/29/73

PAO Skylab Control, Houston, at 14 hours 17 minutes Greenwich mean time, less than a minute now from acquisition through Honeysuckle. We expect no live air to ground during this pass. This pass has been scheduled for the private conversation requested by Commander Pete Conrad, yesterday evening, with JSC director, Chris Kraft, Donald K. Slayton and the on-duty flight director. In this case, the on-duty flight director being Neil Hutchinson. A summary of this conversation will be released later. We're at 14 hours 18 minutes Greenwich mean time and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-236/1

Time: 09:38 a.m. CDT, 149:14:30 GMT
5/29/73

PAO Skylab Control, Houston, at 14 hours
38 minutes Greenwich mean time. Coming up now on acquisition
of Skylab through Hawaii. We'll stand by for conversations
between CAP COM, Henry Hartsfield, and the crew aboard
Skylab. This is expected to be a 4-1/2 minute pass.

CC Skylab, Houston through Hawaii for
4-1/2 minutes.

SC Hello, Hank. Hey, if you've finished, we
can't find it any place. What DAC do you want put on the
EREP DTS?

CC Stand by 1.

CC Skylab, Houston. So that we can manage
the VTR, we need to know if you're using it now.

SC Negative, Houston.

CC Okay. Did you get TV 1 accomplished?

SC Very sorry, I didn't hear you.

CC Roger. Was TV 1 accomplished?

SC Negative.

SC Houston, The CDR's having a problem with
the launch lock on S009. That's why he's behind.

CC Roger. Copy.

SC Hey, Henry. Also, the ground, you guys
owe us an answer from last night on the cryo heater do you want
on in the command module. The configuration right now is
O2 tank 2, and H2 tank 2 have the heaters in AUTO. And (garble)
pump it out of those. Is that the way you want it? We just want to
verify it.

CC That's affirmative, Paul. That's a good
configuration.

SC Oh, okay. We ask last night and never got
an answer.

CC Skylab for the SPT. For planning purposes,
we're going to look at your XUV monitor at the Mila pass,
occurring at about 18:12 Zulu.

SC Okay. Thank you.

CC Correction. That's Goldstone at 18:05.

SC All right.

PAO DAC is a digital acquisition camera.
The earlier conversation with Joe Kerwin dealt with the -
his television monitor, with the Apollo telescope mount.

PAO Yes, the terminology DAC is data acquisi-
tion camera, not digital acquisition camera, as I previously
stated.

PAO Skylab Control, Houston; 14 hours 45 minu-
tes Greenwich mean time. We've had loss of signal with
Hawaii. The next station to acquire, in slightly less than
2 minutes, will be Goldstone. Skylab is now on its 215th revolution.

END OF TAPE

SL-II MC237/1

Time: 09:45 a.m. CDT, 149:14:45 GMT
5/29/73

PAO We've had acquisition through Goldstone.
Standing by now for the callup from CAP COM, Henry Hartsfield.
CC Skylab, Houston; stateside for 9-1/2 minutes.

SC Roger.
CC An answer on the DAC for the VTS it should be DAC 5.

PAO DAC the data acquisition camera. And they're talking about the camera number to be placed in the view finder tracking system. This is part of the EREP checkout procedure now taking place. Apparently pilot Paul Weitz now involved in that.

CC Skylab for the CDR. How are you coming with that S009?

CDR I can't work the, and (garble) I doesn't work.
SPT Houston, SPT.

CC Go ahead.
SPT Let me make sure I understand the status of the X-ray experiment. On S054 is the X-ray image also not to be enabled. I had a specific GARBLE photo multiplier image disector and don't know that X-ray image. I have not enabled it.

CC That's negative. The X-ray image should not be enabled either.

SPT Okay. What's the problem and the prospect?

CC Okay, it's just that the canister pressure hasn't met the guidelines of being down below 1 times 10 to minus 5th for 48 hours.

SPT Is it down there yet?
SPT I'm kind of surprised because we were planning to do this on day 4.

CC Everybody is a little surprised at that, Joe. It's still not quite down there - apparently we're still getting some outgassing in the canister.

SPT They think we'll make it though, huh?

CC Roger. We think it'll get there.

PAO S054 is the X-ray spectrographic telescope. We've been hearing from Joe Kerwin who is checking out the ATM.

CC And SPT for information since the TV 1 is just now getting on there, getting in work, we didn't dump the recorder so whatever is coming down from XUV monitor 1 now we'll be getting on tape at Goldstone.

SPT I'm not sure I understood that. I was not recording anything on the VTR.

CDR I'm supposed to (garble).

SL-II MC237/2

Time: 09:45 a.m. CDT, 149:14:45 GMT
5/29/73

SPT Houston, SPT. Did you want me to record that XUV monitor data?

CC That's negative.

SPT Okay.

CC What's happening is we are recording your TV at Goldstone. We're recording what's on monitor 1.

SPT Rog.

CC Skylab, Houston. We're about 30 seconds from LOS; Bermuda at 59.

PAO Skylab Control, Houston; at 14 hours 56 minutes Greenwich mean time. We've had loss of signal. The next station to acquire is Bermuda in approximately 3 minutes.

CC Skylab, Houston through Bermuda for 5 minutes.

SC Good.

CDR Hey, Hank, CDR, GARBLE 1 is complete and it's on the VTR.

CC Roger, thank you.

CC Skylab for the SPT.

SPT Go ahead.

CC Roger, Joe. We've got a priority thing for you here in, accordance with your detail pad. We need to get the CMC up and get POO in ACCEPT so that we can get some up-links in prior to the P50, P51. And we've got to get to them before AOS at Canaries.

SPT Okay.

CC And Canaries is coming up at 15:08.

PAO Skylab Control, Houston. That callup from Henry Hartsfield will require Science Pilot, Joe Kerwin, to go to the command module to turn on the command module computer. We're at 15 hours 2 minutes Greenwich mean time. Continuing to monitor this is Skylab Control, Houston.

END OF TAPE

SL-II MC-236/1

Time: 10:02 a.m. CDT, 149:15:02 GMT
5/29/73

SC Houston, you still there?

CC Roger. Go ahead.

SC Okay. S009 is activated now. For

information, I had a very difficult time getting the package in, Hank. It probably won't mean any thing to you, but if any of the 009 guys are around, the distance between the 2 bearings on the actuators that gage the latches was absolute minimum. I don't really know how I finally got it in, but it's very close tolerance on the package dimensions and the dimension on the latches on the bearings of the actuating mechanism.

CC Roger. Copy. You think - Well that's up in the MDA, so it wouldn't be a temperature problem.

SC That's right. It appears to be functioning normally now. I closed the package and it went all right. That's just for information.

SC And oh, Hank the package that goes in S009 has been in the film vault.

CC Okay. That may be it, then.

PAO S009 is a nuclear motion experiment.

PAO Our first call on that was from Paul

Weitz. We later heard from Pete Conrad.

PAO This experiment package is removed by one crewman and deploy - who deploys the emulsion stacks in the hard mounted experimented housing in the multiple docking adapter.

PAO Skylab Control, Houston. We've had loss of signal with Bermuda. The next station to acquire will be Canary in approximately 1 minute and 15 seconds.

PAO We now have acquisition of signal through Canary with Skylab. Standing by for callup from CAP COM Henry Hartsfield.

CC Skylab, Houston, through Canaries for 9-1/2 minutes.

PAO Skylab Control, Houston; 15 hours 13 minutes Greenwich mean time, continuing in this pass over Canary. No conversation at this time. We'll stand by and continue to monitor.

CC Skylab, Houston. One minute to LOS; Honeysuckle at 54. And we got our uplinks in and computer's yours.

SC Roger. Houston, the CDR's just putting on his biomed instrumentation and we're getting ready to start 92.

CC Roger. Copy.

PAO Skylab Control, Houston. We've just had loss of signal. The next station to acquire will be Honeysuckle in approximately 34 minutes. This is Skylab Control, Houston, at 15 hours 20 minutes Greenwich mean time.

END OF TAPE

SL-II MC240/1

Time: 10:52 a.m. CDT, 149:15:52 GMT
5/29/73

PAO Skylab Control, Houston, at 15 hours
53 minutes Greenwich mean time. One minute away now from
acquisition of Skylab through Honeysuckle.

PAO The Mission Control Center now receiving
data through Honeysuckle.

CC AOS over Honeysuckle for the next 9 min-
utes.

SC Roger, Houston. This is the SPT. I'm
starting the P51. The field of view is quite small. Could
you guys tell me what constellation I'm centered in?

CC Rog. Wait one, Joe.

CC Rog. Joe, have you tried to use the
star tracker sensors to get started?

SC Say again.

PAO Skylab Control, Houston. That's Science
Pilot, Joe Kerwin.

CC Have you used the star tracker option
or not? To get started?

SPT No. You're pad said to use two stars
so I assumed that was the C3M option.

PAO Kerwin speaking from inside the command
module. Now the computer on program -

SC Full status report - we're running farther
behind on the M092. Part of it, in this case, we had to change
GARBLE there. We couldn't wait GARBLE.

CC Roger. Paul, copy. You're running behind
on 92, you had to change out a leg band.

SPT You're right. We're just about GARBLE
now.

CC Roger.

PAO That's Paul Weitz reporting on the ex-
periment M092, the inflight lower body negative pressure.
Meanwhile Kerwin in the command module having the computer
in program 51. That's the command module computer, the program
IMU orientation determination program. For M092 Pete Conrad
serving as the subject; Paul Weitz serving as the observer.

CC For the SPT on stars; Nunki, Peacock, and
Atria should still be pretty good stars. We're having - since
you're in a dump we can't really give you a good hack on it.

SC All right.

PAO That's Astronaut Bob Crippen speaking
to the crew. Sitting beside him, Henry Hartsfield.

PAO Following the IMU orientation program
on the computer, Kerwin will go to program 50. That's the
ATM orientation determination program. Science Pilot, Joe
Kerwin presently working inside the command module while Pete
Conrad the subject for the inflight lower body negative pressure
experiment with Paul Weitz the observer. We've got less than

SL-II MC240/2

Time: 10:52 a.m. CDT, 149:15:52 GMT
5/29/73

4 minutes remaining on this pass. Standing by continuing to monitor this is Skylab Control.

PAO Phil Shaffer sitting at the flight directors console along with Neil Hutchinson; Shaffer the Flight Director chiefly involved with command module activity.

CC Skylab, Houston. We're one minute until LOS. We'll have you again at Hawaii at 16:14.

SC Roger.

CC And, Joe, before I lose you here, the earliest you can start P50 is 16:15, 16:15.

SC Say again, Kirk.

CC Roger. The earliest you can start P50 is at 16:15, 16:15.

SC I've got you.

CC We've got to get some momentum dump completed.

PAO Skylab Control, Houston. It's 16 hours 4 minutes Greenwich mean time. We've had loss of signal. The next station to acquire; Hawaii in less than 10 minutes. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-241/1

Time: 11:12 a.m. CDT, 149:16:12 GMT

5/29/73

PAO Skylab Control, Houston, at 16 hours
13 minutes Greenwich mean time. Less than a minute away now
from acquisition of Skylab through Hawaii. When we last had
Skylab over Honeysuckle, Science Pilot Joe Kerwin was working
with the computer in the command module, performing the
orientation determination programs in the IMU and the Apollo
telescope mount coming up. Conrad was acting as a subject
for the M092 experiment, this the inflight lower body negative
pressure experiment, with Pilot Paul Weitz acting as the
observer. We'll stand by now for conversation.

CC Skylab, Houston through Hawaii 10 minutes.
SC Roger. Hello, Houston. I'm about to
start the P50.
SC And, Houston, which option would you like
me to take?
CC Roger. Option 2.
SC Okay.
SC Houston, SPT. Are you looking at the -
at the DSKY, or not?
CC Roger. We got them.
SC Okay; if they look good to you, I'll probe.
CC Those NOUN 23's look very good, Joe.
PAO That's Science Pilot Joe Kerwin talking
to Henry Hartsfield. Presently, he has the command module
computer in program 50, the Apollo telescope mount orientation
determination program.
SC You ready for me to power down the IMU in the
computer?
CC Say again, Joe.
SC Are you ready for me to power down the IMU
in the CMC? Over.
CC That's fine. You can go ahead and power down.
SC Okay.
PAO Skylab Control, Houston. The guidance
officer in the Mission Control Center reading the display,
showing registers on Joe Kerwin's computer. He's given the
"go ahead" for powering down the command module computer.
CC Skylab, Houston. We're about 1 minute
to LOS. We'll be back with you shortly at Goldstone 25.
SC Okay; roger.
PAO Skylab Control, Houston --

END OF TAPE

SL-11 MC-242/1
Time: 11:23 a.m. CDT, 149:16:23 GMT
5/29/73

PAO Skylab Control, Houston; 15 hours
24 minutes Greenwich mean time. We've had loss of signal
over Hawaii. The next station to acquire, Goldstone, in
1 minute 20 seconds.

PAO We have acquisition now through Goldstone.
CC Skylab, Houston, through Goldstone 7-1/2
minutes.

CC Skylab, Houston; Nor SPT.

SC Go ahead.

CC Yes, sir. For our info, did you get the

JOP 12 delta accomplished on the checkout?

SC No, sir. When I finished the coalignment,
I only had 9 minutes remaining, so I chose not to do any of
those options. I just didn't have time.

CC Roger. Thank you. And I wonder if you'd
be available to get a couple of switches for us?

SC Well, I'm in the waste management compart-
ment. How important is it?

CC Okay. No, no big rush. And whenever you're
free, just give us a call.

SC Okay. That'll be a couple of passes.

CC Skylab, Houston. Twenty seconds from LOS;
Bermuda at 37.

PAO Skylab Control, Houston, 16 hours 33 min-
utes Greenwich mean time. We've had loss of signal. The next
station to acquire will be Bermuda in approximately 3-1/2 minutes.

END OF TAPE

SL-II MC234/1

Time: 08:28 a.m. CDT, 149:13:28 GMT
5/29/73

PAO Skylab Control, Houston. We've had loss of signal. Madrid is the next station to acquire in approximately 4 minutes.

PAO Skylab Control, Houston; 13 hours 32 minutes Greenwich mean time. Standing by now for acquisition with Skylab through Madrid.

CC Skylab, Houston, through Madrid, 9 minutes.

SC Hello, Houston.

SC Hi Houston. CDR, both tape recorders are loaded, just about to check them out.

CC Roger. Copy.

SC Houston you want me to tell you now in real time what our 16 millimeter configuration is or put it on tape.

CC That's your choice, Paul, which ever is easiest.

SC Okay, if you'll get out the film strips and let me go GARBLE.

SC Houston, SPT.

CC Go ahead.

SPT The XUV monitor in main position number 7 has just barely began to detect GARBLE and normal background features the - one feels that one needs about four more gain positions to do the job properly. When can I show you these.

CC We'll have to schedule that up, Joe, we'll let you know.

SPT Okay.

CC And PLT we've got the film prep pad.

PLT Okay. Here's what it is right now. The first line on transporter O2 is as advertised on the pad. The second line, now transporter A1 is bad and was reported as such by Dr - by the PS what's his name, yesterday as is takeup to fit MT01, therefore, the second line now reads transporter O3 and the takeup reel is MT10. That's MT10. And the third line, everything is as advertised except the takeup reel is MT11 that's 11. The redcing of panel 11 was because the straps aren't marked Hank, and I figured it didn't make any difference - I took the first two empty reels I came to.

CC Roger. Copy.

PLT And also for information, GARBLE GARBLE they all threaded beautifully this morning. I don't know if that procedure on pulling the film - everything you did must have worked - but no sweat.

CC Okay. That's good news.

SC Houston, the CDR wants to know if you're going to send him an S009 pad.

SL-II MC234/2

Time: 08:28 a.m. CDT, 149:13:28 GMT

5/29/73

SC GARBLE delay this Houston.
CC Skylab, Houston for the CDR. You're
private comm request is set up on Honeysuckle. Next pass at
18.

SC GARBLE 18.
CC Did you copy that, Bill?
CC Skylab Houston for the SPT. On the XUV
monitor did INTEGRATE help any at all?

SC Yes. INTEGRATE helps a lot except that
the view you get is so brief that I really can't make out
detail such as small bright areas that we hoped we were going
to be able to see. The larger features do come in better.
My optimum integration looks to me to be about 3 seconds but
I sure would like to give this stuff now and I'd like for the
experts to look at it also.

CC Roger. We're trying to schedule that.

SC Okay.

SC Say, Hank. I put a message on B channel
about the EREP tape recorder checkout - It was just a little
funny, it doesn't mean anything - it's just something I wanted
to note and tape recorder 1 checks out okay.

CC Roger, copy. And we're about 30 seconds
from LOS. Honeysuckle is coming up at 18.

SC Roger.

PAO Skylab Control, Houston, at 13 hours
42 minutes Greenwich mean time. We've had loss of signal over
Madrid. The next station to acquire - Honeysuckle - in some
36 minutes. Meanwhile a decision has been made to hold a
private conversation requested by commander Pete Conrad at
approximately 10:30 p.m. CDT last night. This will take place
over the next station contact, Honeysuckle. The communication
will be with Johnson Space Center Director, Chris Kraft,
Director of Flight Crew Operations at JSC, Donald K. Slayton
and the on-duty Flight Director, Neil Hutchinson, as requested
by Conrad yesterday evening. A summary of this conversation
will be released. We're at 13 hours 43 minutes Greenwich
mean time and this is Skylab Control, Houston.

END OF TAPE

SL-11 HC-244/1

Time: 11:46 a.m. CDT, 149:16:46 GMT
5/29/73

PAO Skylab Control, Houston; 16 hours
49 minutes Greenwich mean time. Skylab presently under
acquisition with Canary. Back to back on this pass, Skylab
will be acquired by Ascension. We have approximately 14-1/2
minutes before loss of signal with Skylab.

CC Skylab, Houston. Ah - you free, SPT?

SC No. I'll call you in one minute, Hank.

CC Okay.

SC Okay, Houston.

CC Okay, Joe. Just wanted to clear up a
little thing, here. You know, you reported this morning
you were having the oscillations in the canister and we'd
like to know if you noticed any abnormal canister motion
during the four-limb coalign?

SC No, I didn't, Hank. As a matter of fact,
the deflection of the limb was remarkably steady, considering
the oscillations that I noticed while playing it front center.
I can't account for this. I guess I'll have to go back and
look some more to pin it down.

SC But, when I was sitting up the H-alpha
reticles that was very easy to do. The limb was quite steady.

CC Roger. Copy. Were you operating the
zoom when you were getting that oscillation, this morning?

SC Well, Hank; the oscillation was noticeable
only in - in zoom IN. The farther out you zoom the less
noticeable it became. In a full zoom-out it was undetectable.
In full zoom-in or either H-alpha instrument, it was noticeable.
It wouldn't affect seeing because it's too slow a period and
not big enough to affect (garble).

CC Joe, we had a little drop out there.

CC Did you not hear any of it?

SC Roger. We understand that the problem
was most noticeable at a - when you ran back all the way in.

SC That's right. It was undetectable when
we were zoomed out. And I said, that it doesn't interfere
with the operators seeing, but I think it might blurr some
of the long exposures if it is really a canister jerk,
which is what it appears to be to me.

CC Can you say what axis it is in?

SC Near the rear end of it seems like.
It's just a few odd seconds. Incidentally the resolution of
both the H-alphas is terrific. They're very good pictures.

CC Outstanding.

CC Okay, Joe. I guess we've got a few
switches we'd like you to get at your convenience. We'd like
to increase the circulation a little bit to make it a little
more comfortable for you guys. On the panel 614 down in the

SL-II MC-244/2

Time: 11:46 a.m. CDT, 149:16:46 GMT
5/29/73

workshop there, we'd like you to get the dump 3 fans on. Close those 4 circuit breakers. And up on panel 203 our AM circulation fans, we'd like to take those to HIGH.

SC Okay. You got to put that power to burn. That's good. While we're at it, did I ever ask you what the problem was with CBRM 15, what you think about it?

SC You're gone, aren't you?

CC The problem on that one is that the contactor's stuck open. This has happened before in testing. And ah - The procedure we sent up to you, tonight to try, cured it up in the ground test. And beyond that we don't know any more. It's just a contact, and we can't get it to close.

SC Okay. Which contact is this?

CC It's the SAS contactor. The one that connects the solar panel to the CBRM.

SC Okay. Thank you. And is there any way I can get the power system alert light out?

CC Stand by.

CC Okay. You could turn it off by going to the switches and commanding the reg and charger off. But we've been keeping that reg on to keep the temperatures up. You should also be able to clear it by selecting the CBRM 15 with the rotary switch.

SC I can't make it go off. No way.

SC I haven't tried turning off the reg.

And I take it you don't want me to. Selecting the CBRM doesn't work.

CC Roger.

CC And I've got a couple of more items for you, Joe. One, no rush on this, the next time you're up in the command module, want to get the optics power off. And the other thing is, the solenoid vent plug that we had you install, we did a little more soul searching about that and decided since the bird was good and tight it wouldn't cycle those valves. And I guess, we want you to take it off now so we can have our ground command dump capability.

SC Okay.

FAO Skylab Control, Houston, at 16 hours 59 minutes ground elapsed time. We've got about 4-1/2 minutes remaining on this Ascension pass. Joe Kerwin apparently, in his lunch period, talking to CAP COM Henry Hartsfield, covering a variety of subjects.

CC Skylab, Houston. We're about 1 minute from LOS. We'll be coming up at Carnarvon at 29. One other item here, I've got a few little news items, you might be interested in. I thought maybe when all three of you were

SL-II MC-244/3

Time: 11:46 a.m. CDT, 149:16:46 GMT

MC-244/3

having lunch, and relax there sometime, I could pop them up to them, if you're interested. I'll wait on your call for that.

SC Okay. We are interested. We'll let you know when we're having lunch. We're just about half way through CDR's M171.

CC Roger. Copy.

SC He's doing better than I did yesterday, Hank. But he's required some gross adjustments in the seat position on that bicycle.

CC Roger. We copy.

PAO Skylab Control, Houston at 17 hours 4 minutes Greenwich mean time. We've just had loss of signal with Skylab through Ascension. The next station to acquire will be Carnarvon in approximately 25 minutes. The last report we heard from Skylab, Pilot Paul Weitz who reported that Pete Conrad is performing medical experiment 171. This metabolic activity experiment apparently, Conrad working with the ergometer system. At 17 hours 5 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC245/1

Time: 12:28 p.m. CDT, 149:17:28 GMT
5/29/73

SC Okay. We're all congregated in the head, all for different reasons. Why don't you just go ahead and flip us the news.

CC Okay. I'll just run through a few items here. Former prisoners of war joined other Americans in honoring the nation's war dead Monday in the first Memorial Day since the Vietnam cease fire. The former POWs spoke at several observances throughout the country, most of them in their home towns. President Nixon spent the holiday at Key Biscayne preparing for his meeting with French President George Pompidou at Iceland this week. And this one, I thought Joe might be interested. Sculptor Jock Vitschitz, who died Saturday at 81, will be buried in Jerusalem, Tuesday. Born in Lithuania, the world-renowned artist immigrated to the United States after World War II. We had a rash of bad weather here. Several states in the southeast and lower mid-west suffered damage and loss of life during a series of tornadoes over the weekend. Alabama had 12 tornadoes in various locations, including one that struck Brent, only about 20 miles south of Huntsville. Russia also suffered natural damage when floods inundated more than 100 settlements and towns in central Siberia. No one was killed, but great damage to farms, factories and mills was reported. The US and Russia have signed a pact aimed at cleaning up the oceans of the world. Scientists from both countries met in Los Angeles for preliminary agreements that will be reviewed and are expected to be approved next fall. Got a bunch of ball scores here, in case you're interested in some of them. The big news over the weekend was Jack Nicklaus won his 48th victory when he won the Atlanta Golf Classic Sunday, and he took home with him about \$30,000 for his efforts. He had a 272 total, 16 strokes under par, and was 2 strokes ahead of his closest opponent, Tom Weiskopf. The 57th Indianapolis 500 Auto Race was cancelled Monday after a nine-car accident in the first lap. The 33-car field had just moved into the first turn when the accident occurred. The race had already been delayed because of rain. It was rescheduled for 9:00 this morning, and, at this point, it still isn't running because it's raining. Salt Walther was hospitalized in serious condition. Mike Hiss and John Martin suffered minor burns but are expected to race today. Many spectators were also injured in the crash. Other drivers involved, but not seriously hurt, were Wally Dallenbach, Mike Mosely, David Hobbs, Lee Kunzman, Dick Simon, and Jim McElreath. And that's about all I had for you this morning, or afternoon.

SC

Thank you. How did the Cubs make out?

CC

Okay. Stand by 1. Okay, this is --

SC

(Garble) request for (garble).

SL-II MC245/2

Time: 12:28 p.m. CDT, 149:17:28 GMT
5/29/73

CC This is Sunday's score. The Dodgers
took the Mets 2 to 1, and the Cubs beat Cincinnati 2 to nothing.
SC How about that. What's Houston in?
CC Well, Houston - I think they won Sunday
and lost yesterday. And they're about a game out of first.

SC

Okay.

SC

Hey - Hank, you still there?

CC

That's affirmative.

SC

Okay, I'm going to put a little old message
on B channel for M0171 guys to tell them what I did to get
through the run, okay?

CC

Okay. Good show.

PAO

Skylab Control, Houston; 17 hours
33 minutes Greenwich mean time. Still under acquisition with
Skylab through Carnarvon.

CC

Skylab, Houston. We're about 1 minute
from LOS. We'll be coming up on Guam at 43. I've got a
quick question for you. From time to time we're getting
little small corrections for pads that you're using during
the day. Would you rather we try to catch you in a free mo-
ment and give those to you or try to catch you at the last
(garble) list prior to the activities of the corrections to?

SC

We would like to (garble) you if you didn't
have to send us the corrections. In the meantime, why don't
you just try and catch us when we're free. I tell you, now,
we got behind this morning because of that light band carrier
on the M092 and a couple of things like that, and we're going
to really be rippling here, but I think we'll be back on
schedule in about an hour or so. What have you got for the
rest of the afternoon? What changes have you got? What
experiments?

CC

Okay. There is nothing coming up soon,
and we're about LOS. We'll catch you at Guam.

CC

Okay. No sweat.

PAO

Skylab Control, Houston; 17 hours 38 min-
utes Greenwich mean time. That was Pete Conrad talking to
Henry Hartsfield just at loss of signal with Honeysuckle. The
next station coming up will be Guam. And Guam is approximately
5 minutes away from acquisition. This is Skylab Control,
Houston.

END OF TAPE

SL-11 MC-246/1

Time: 12:42 p.m. CDT, 149:12:42 GMT
5/29/73

PAO Skylab Control, Houston, at 17 hours
42 minutes Greenwich mean time. Less than a minute away
now from acquisition by Guam tracking. We'll stand by and
monitor.

CC Skylab, Houston through Guam for 2-1/2
minutes.

CC Skylab, Houston. For your info, we can
see those M092 vents very plainly in our momentum profile.
And the dump this time looks like we need a 5 degree yaw
correction, which should cause the star tracker not to acquire,
and I think you just got that alert. And we're getting a
pad for you now.

CC Skylab, Houston. Do you copy?

SC Yes. Sorry, Hank. I had to have it ex-
plained to me because the music was on too loud, and then I
had to drag out my pad, and put down my macaroni, and now
I'm ready to copy.

CC Okay. We're working on the pad, Joe.
I'll give you a buzz when we get it.

CC We'll get the pad to you in Hawaii, Joe.
Really sorry about your macaroni. We'll be coming up on
Hawaii at 53.

SC He says he's not going to put his macaroni
down again to answer you.

CC Roger; copy.

END OF TAPE

SL-II MC-247/1

Time: 12:52 p.m. CDT, 149:17:52 GMT
5/29/73

CC Skylab, Houston through Hawaii for 4-1/2
minutes.

SC Roger. Hank, say, we could have a little
discussion here, and let me pose a question to you.

CC Okay.

SC We got that 300-millimeter Nikon lens,
which we hadn't originally planned on having. Will you check
with the photo people and, if possible, send us a pad to use
the other Nikon camera, and if there is any extra color ex-
terior, we would like to rate that to use in the wardroom
window along with the Hasselblad. We haven't done any
photography, to speak of, out the window because we flat
haven't had any chance. But we sure are passing over a lot
of places we haven't before, and I'd like to pick up some
70 and some 300-millimeter of the good stuff that we're seeing.
I missed Italy the other day when the weather was absolutely
perfect. We just didn't have the camera ready, but we thought
we might use that 300. Plus, we were going to try and photo-
graph some of the fellows that are following us around that
belong to what came off the vehicle. I think the SII has
been hanging around here and we get a pretty good look at
something every evening.

CC Roger. We'll put that in work.

SC Thank you, sir.

CC That thing I was talking about awhile
ago - those pads, Pete, we've got a - we sent you up a stow-
age pad last night with a whole new stowage list to update
it because we didn't have time to do it before launch. And
we find that we needed to add a little something in there.
And the other kind of thing is we made a small error in the
190 heater pad that was part of the EREP pad.

SC Okay. I'll - just a second - let me get
my book so that I can copy. What's our next station?

CC Okay, we'll be coming up stateside here
at 05.

SC Okay, we'll copy both of those then. Un-
fortunately, we got a little hot thing in. We had moved a
lot of the gear that you had on the pad this morning already
out of the PF, so I'm gonna - I'm gonna have to modify that.
What I'm going to have to do is chase it down from where we
got it and put it where you want it.

CC Okay, it's not a - it's not a movement
thing, it was just an addition where we said to move the
(garble). We wanted to make sure you vent - remove the cover.

SC I'm not sure I know what you're talking
about.

SL-II MC-247/2

Time: 12:52 p.m. CDT, 149:17:52 GMT
5/29/73

CC And we got a little reminder for the SPT.
This is our - this Goldstone pass coming up is our TV pass
for the ATM. We'd like for him to go through the normal TV
operations and the XUV MOD at the end. And I also have the
star tracker gimbal angles now.

SC Okay. Go ahead.

CC Okay, the stars Achernar and Custer is minus
0536; Inner, minus 0211.

SC Roger.

CC And this pass at Goldstone will be live,
and all the PI's are chomping at the bit to get a look at it.

SC Okay, well, Hank, I've got a couple of jobs
laid on for this pass. I'll just rely on you to call me up and
tell me what you want on the monitor and when you want it.

CC Roger.

CC And we got about 10 seconds to LOS. Gold-
stone is coming up at 05.

SC Still with us, Hank?

CC Roger.

SC We may miss TV 2 to give me the Gold-
stone stuff and stay on schedule. I'm not sure how it's going
to work. We'll try and squeeze it together.

CC Okay.

PAO Skylab Control, Houston, at 17 hours
59 minutes ground elapsed time. On the upcoming U.S. pass
we do expect live television, as you heard, of the Apollo
telescope mount over Goldstone. Following this Goldstone -
following this, Goldstone will send some television recorded
earlier today. We expect this will be a television of food
preparation involving the specimen mass measuring device. A
representative of the Johnson Space Center Medical Directorate
will be in the small briefing room of building 1 to talk about
the food preparation television, and answer questions from
newsmen. We now show a loss of signal with Hawaii. The next
station to acquire will be Goldstone in approximately 5-1/2
minutes.

END OF TAPE

SL-II MC248/1

Time: 1:03 p.m. CDT, 149:18:03 GMT
5/29/73

PAO Skylab Control, Houston; 18 hours
4 minutes Greenwich mean time. Standing by now for acquisition through Goldstone.

CC Goldstone for 5 minutes.

SC (Garble).

CC And, SPT, we'd like for you to fly the scheduled ATM pass there and the TV, and at the end of it, you can give us some extra XUV mode.

SC Okay. I'm behind, Hank, because I was pointing to (garble) 14 when suddenly the (garble) glitched me clean off the Sun. It looked like it ran forward and just stopped. No. I'm back on the Sun now and pressing on. I really don't know why it happened.

CC Roger. Did you zero the wedges before you started, Joe?

SC Oh, yeah. They were doing fine now - they need to be rezeroed down, but I'm not going to do it until after I get the picture.

CC Okay.

SC And if you guys are getting light TV, I have my monitor 2 now, the XUV monitor, and it's the best brightness and contrast and intensity that I can get.

CC We don't have our picture yet. We're checking.

CC Okay, we're getting it now.

SC Okay, (garble) that H-alpha 2. It kind of did it to me again (garble) other way. Won't take but a minute.

SC Now my left-right is okay. My up-down is stuck at 101. I'd like to change up their gyros, with your concurrence.

CC Stand by.

SC Meanwhile, there is the XUV monitor for you.

CC Roger.

SC Is our gain 7? Brightness 7, contrast 9.

CC And you're cleared to change gyros.

SC Thank you.

CC And would you integrate for us.

SC Stand by. It's leaning away again.

SC See what's happening?

CC Zipped right out of there.

SC There is a cycling max rate up and down. I've changed back to the primary gyro.

SC And what you're looking at now is something funny on H-alpha 2 that I can't explain. H-alpha 1 doesn't do it. I'll give you a couple of seconds of that. Then I'll go back to (garble) and integrate.

SL-II MC248/2

Time: 1:03 p.m. CDT, 149:18:03 GMT
5/29/73

CC Are you doing integration now, Joe?
SC I'm integrating now. I'm going to go
back to (garble) and do it again.
CC Okay. And we've got about 15 seconds left,
and we'll pick up at Texas at 12.
SC Is that live TV over Texas?
CC That's negative.
SC Okay. Maybe you got some of the inte-
gration. I hope so.
CC Roger. We did.
PAO Skylab Control, Houston; 18 hours 11 min-
utes Greenwich mean time. We've had loss of signal with
Goldstone. Standing by now for acquisition through Texas.

END OF TAPE

SL-II MC-249/1

Time: 1:11 p.m. CDT, 149:18:11 GET
5/29/73

CC Skylab, Houston, ah - Texas for 12 minutes.
SC I can understand why they're not going to
have a race in Indianapolis, we can see the weather.
SC We're over Lake Superior here and see
all the clouds.

SC Houston, SPT.

CC Go ahead.

SC The oscillating on H-Alpha only occurs
when you're zoomed all the way out. And it's - I can cure
it by zooming in part way. The up-down gyro problem is
something I haven't solved yet. When I go to the backup
gyro it begins its oscillation up and down. It goes divergent.
I think what I'm going to do is go to solar inertial and
then switch to - the gyros to secondary and in a couple
of minutes - - that experiment for you.

CC Roger. We concur.

CC We think that maybe, the reason the -
you oscillated there, was that we didn't give enough time
for that gyro to spin out.

CC SPT, Houston. I guess when we're
using these gyros, we ought to go to solar inertial,
power up the other gyro, and then after it spins up, go back
to EPC.

PAO That's CAP COM Henry Hartsfield talking
to Joe Kerwin through Texas.

CC SPT, we don't see a power discrete on that
gyro, yet. We want you to hold up on going back to EPC.

CC Okay. Gyro looks good to us, now Joe.
You can switch back.

SC Okay.

SC Now we've got our first, really good,
look at Long Island, and New York, and Cape Cod, Delaware Bay
and all that.

SC Okay, Houston. I have an up-down oscil-
lation now of about 4 or 5 arc minutes. I can point with the
manual pointer controller; I cannot damp the oscillation in
the (garble) readout does not change.

CC Roger. Copy.

END OF TAPE

SL-II MC-250/1

Time: 13:18 p.m. CDT, 149:18:18: GMT
5/29/73

CC SPT, Houston. We don't fully understand why the canister is doing what it's doing there. We'd like you to go back to solar inertial and let us mull it over awhile.

SC Okay.

SC Houston, you still there?

CC That's affirmative.

SC May I run through the (garble) procedure

11 Bravo?

CC Stand by.

SC Hank, you still with us?

CC Sure are, Pete.

SC Did you get any of the VTR, this morning, yet?

CC That's affirmative, Pete. We got it.

SC Okay. You got it, very good. Thank you.

CC SPT, Houston. We're going to give you a mile a minute. We're debating on what it should be, 11 alpha or 11 bravo.

SC Okay.

CC PLT, Houston. You free?

CC SPT, Houston. We want you to run APCS 11 Bravo.

SC 11-Bravo, in work.

SC To do that, I'm going to go back to the primary of that gyro, right now.

CC Roger.

CC CDR, Houston. Have you put the new SO19 film in?

SC Who you talking to?

CC CDR.

SC No.

SC Not yet, it says not to.

PAO Less than a minute away now from loss of signal through Bermuda.

CC Skylab, Houston. We're about 30 seconds from LOS. We'll be coming up on Ascension at 3:03.

PAO Skylab Control, Houston, at 18 hours 25 minutes Greenwich mean time. We've had loss of signal through Bermuda. The next station to acquire will be Ascension in approximately 8 minutes. During this stateside pass, just ended, we saw the first operational use of the Apollo telescope mount in the mission control center through the medium of television. Meanwhile, the average air temperatures inside the workshop is currently on the order of 88 degrees. Examples of temperature ranges; the experiment compartment floor, 85 degrees, this being on the low side of the scale. The experiment compartment ceiling in the middle range, reading 87 degrees. Thermal

SL-II MC-250/2

Time: 13:18 p.m. CDT, 149:18:18 GMT
5/29/73

experts from the Johnson Space Center and the Marshall Space Flight Center are currently studying the workshop temperatures which appear to flattening out somewhat from earlier predictions. We are at 18 hours and 26 minutes Greenwich mean time and this is Skylab Control, Houston.

END OF TAPE

SL-11 MC251/1

Time: 1:32 p.m. CDT, 149:18:32 GMT
5/29/73

PAO Skylab Control, Houston, at 18 hours
32 minutes Greenwich mean time. One minute away now from
acquisition of Skylab through Ascension. The orbital work-
shop now on its 218th revolution We'll stand by and moni-
tor this pass, which is some 5-1/2 minutes in duration.

CC Skylab, Houston through Ascension
5-1/2 minutes.

SC (garble)

CC Joe, we've got a question for you. Did
you zero the wedges after you turned on the fine Sun sensor
for this daylight pass?

SC Negative. I came up using the darkside
sunside prep. We should close them up waiting 90 seconds
and proceeding on. I didn't zero the (ringing noise in background)
(garble). However, they were operating perfectly normally, and
then suddenly I was down at activation 14 GARBLE and suddenly took
off. Now I've been through MALF 11B and I came out at step 6.
Namely, when I switched the point search system from primary
to secondary, the problem went away. The vertical wedge did
zero nicely. It's behaving normally. I still have the
jitter - - in the canist r - it's too big. So, I'm performing
building block 4. I'm on 4A, and I think I may get 4B in before we
quit for the day.

CC Roger. We copy and in regard to that
zeroing the wedges, we think that's the source of our problem.
What we're going to have to do is zero the wedges everytime
after we turn this fine Sun sensor off and bring it up again.

SC Okay. You guys are going to lose a
lot of data with all this Mickey Mouse GARBLE GARBLE takes a
long time.

CC And the problem we had with the secondary
rate gyro there, we think was - it's taken a lot longer than
90 seconds for that gyro to warm up. Your checklist says
30 minutes although we allow 90 seconds in emergency situation
and the reason you got the up-down oscillation, we think, is
because it just flat didn't get up to the speed and wasn't
ready to go.

SC Yeah, it would seem to me we probably
ought to make a rule to leave those things on all day GARBLE.

CC Okay. We're considering that, Joe,
we're discussing now where we just might want to leave
the EPC up all the time. The reason we were turning it down
was power considerations.

SC We understand that it's a hard trade-off
to make, Hank, but it sure does behave.

CC Rog, understand.

SC Say in a minute we've got something else
we'd like you to think about.

SL-II MC251/2

Time: 13:32 p.m. CDT, 149:18:32 GMT
5/29/73

CC Go ahead.

SC In an attempt - now that we've got the airlock heaters - the airlock fans going full boar, that makes it nice and cold in the airlock - in the MDA, and it's still kind of warm down here. I'd like you to consider if we'd put up a portable fan in the airlock, either blowing warm air into the MDA or blowing cold air into the workshop.

CC You know, it's kind of funny you mentioned that because we've been talking about that for the last hour.

SC Ha.

CC We've got a procedure in work right now, and we'll be getting it up to you shortly.

SC That's what we were afraid of. We don't need a procedure. Just tell us if you want a fan in the airlock and which way you want it to GARBLE blow.

CC Okay. What we want then, Paul, is we want it in the OWS hatch, right at the hatch entrance and pulling out the hot air and pulling it up towards the airlock, toward the MDA.

CC And we're about 30 seconds from LOS. We'll be coming up on Carnarvon at 03, and we'll get a data recorder dump there.

SC Okay, have you got TV2 on VTR?

CC Roger, copy.

CC Say, we're looking at TV1 right now. It looks real good.

PAO Skylab Control, Houston; at 18 hours 39 minutes Greenwich mean time. We've had loss of signal.

CC Roger. Still here, but we're about to fade out.

SC Okay. I forgot to check this GARBLE pad, S082 A, still operating.

CC What was the question again, Joe?

SC S082A still isn't operating right. GARBLE get a breakdown long ago. And I think probably it did, but the operating lights stayed on.

CC Oh, roger, copy.

PAO Skylab Control, Houston; 18 hours 41 minutes Greenwich mean time. We had some bonus acquisition time with the crew over Ascension. We should have had loss of signal but we did hear from Joe Kerwin, following that predicted time. We presently show the next station to acquire will be Carnarvon. And Carnarvon acquisition some 22 minutes from this time. The major part of the Ascension pass was spent in a troubleshooting discussion between CAP COM, Henry Hartsfield, Joe Kerwin on the first sunlight pass using the Apollo telescope mount. We're at 18 hours 41 minutes Greenwich mean time. This is Skylab Control, Houston.

END OF TAPE

SL-II MC252/1

Time: 14:02 p.m. CDT, 149:19:02 GMT
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PAO Skylab Control, Houston, at 19 hours
2 minutes Greenwich mean time. Now approaching acquisition
with Carnarvon tracking. We presently show Skylab with an
orbit of 240.2 nautical miles by 233.1 nautical miles. Skylab
now on it's 218th revolution. We'll stand by now as Skylab
is contacted by CAP COM Henry Hartsfield.

CC Skyla' Houston through Carnarvon; 10-1/2
minutes and we'll be dumping your recorder here.

SC Roger.

CC SPT are you free now?

SPT Since 1865.

SC Houston, CDR.

CC Go ahead.

CDR What was the change in the stowing thing
you wanted to give me.

CC Okay, Pete, down on the stowage list on
that - the big long page we had you to change out completely
and replace - down where it said SO19 film canister and cover,
we left out some remarks on moving the old film. We should
have told you to vent and remove the cover and move the old
film to F510 GARBLE.

SC I haven't found it yet.

SC Did you want the SPT.

CC I was telling SPT. That message number
is 515 Bravo 2, Pete.

CC And it's right here.

SPT Yeah, I got it but I think you - you don't
mean SO19 do you. You mean S183.

CC Make that page 3 Bravo 3.

SPT I don't have a Bravo 3. I've got every-
thing on that S183 and 300 millimeter lens, it goes down to the
TDI detectors and so forth, is it down past that?

CC Roger. Should go on talking about char-
coal mass and then SO19 film canister TDI detector bags
entertainment tape cassettes.

SPT Yeah, I've got that much but I don't
see any s019 anywhere.

CC Right under the charcoal masks.

SPT Yeah. I found it up in the dim light.
Okay. Now what do you want to do, move old film to F510G?

CC Right, and just prior to that move we
want you to vent and remove the cover. That was the part we
left out. You've got to vent that can there and remove the
cover.

SPT Okay.

SPT Also I'm working on the front part of
it right now and there's no way all that sail stuff will

SL-II MC252/2

Time: 14:02 p.m. CDT, 149:19:02 GMT
5/29/73

fit in the bottom bag so I have all the sail stuff in the sleeping bag that part of it was stowed in. I'm going to leave it that way if everybody is happy with it.

CC Roger. That's good. And SPT.

SPT Go.

CC Okay, we goofed up when we commanded that filter 2 awhile ago to remove the transit indication we forgot to send a reset so before you crank up the ATM at 19:22 we need you to DAS in a 40075. That's filter 123 reset.

SPT 40075.

CC Roger. If you don't do that your filter wheel will cycle.

SC Our filter wheel, Henry.

CC Okay and the story on this EPC is we've decided that we won't pilot the fine sun sensor down any more - just every night when you're through with the experiment point mode we'll just go to solar inertial and leave everything powered up. And in regard to the fine sun sensor - we'd like for you to go back to the primary, zero the wedges and see how that works out on this next pass. If you again have a problem then go on back to secondary.

SC Sounds good. And just to be on the safe side, I'd like you guys to send me up maybe on the teleprinter a short change to when to turn it on to darkside prep. So I don't be just arbitrary.

CC Okay. You - say that again, you want to change the list to the darkside prep?

SC Right. To eliminate those steps which power down and power up the fine sun sensor and the gyro.

CC Okay. We'll see what we can do.

SC Okay.

CC And just as a reminder, Joe, if you do have to go to the secondary fine sun sensor don't forget to zero the wedges before you do anything.

SPT Okay.

CC And for the CDR we reviewed TV2 and it looked real good. However, the silver team missed your T-shirt. That was TV1.

CDR Say again, Hank.

CC Roger. We reviewed TV1 and the silver team missed your T-shirt.

CDR Oh, I didn't bring it this trip.

CC PLT, Houston.

PAO Skylab Control, Houston; 19 hours 12 minutes Greenwich mean time. Less than 2 minutes remaining on this pass over Carnarvon with Skylab.

CC Skylab, Houston we're about 40 seconds from LOS; be coming up on Guam at 17.

END OF TAPE

SL-II MC-253/1
Time:14:13 p.m. CDT, 149:19:13 GMT
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PAO Skylab Control, Houston, 19 hours
14 minutes Greenwich mean time. We've had loss of signal
with Carnarvon. The next station coming up to acquire is
Guam. And that acquisition should occur in approximately
2 minutes.

PAO Skylab Control, Houston. We're receiving
data now through Guam. This should be about a 10-1/2 minute
pass over Guam tracking for Skylab.

CC Skylab, Houston through Guam for
10 minutes.

SC Roger.

SC Hey, Henry. I need a - just a verifica-
tion from the EREP boys in the backroom, there.

CC Go ahead.

SC Were they sure it's a drawer K? Which
is the first (garble) K, which is still 5th November. Is the
whole set to be replaced? And I'll load the magazine cell
with set Q. Is that correct?

CC That's correct, Paul.

SC Thank you.

SC Also, I just put it on tape, but to make sure,
the pad said to put the empty cassette bags in F521. Ask Chuck
Fulton (garble) put them in F520.

CC Roger. Copy.

SC Say, Hank, are we going to have to dress
Friday (garble) waste water or do we have a dump room in the
service module tank when that waste tank is full this time.

CC I'll get your answer on that, Pete.

SC Say again.

CC I'll be getting an answer for you.

SC Thank you.

CC CDR, Houston. Looks like we'll have to make
one more dump a couple days from now.

SC Okay.

SC Hello, Houston; SPT.

CC Go ahead.

SC I came up in experiment pointing with the
primary light (garble) and I went to two of the wedges and their
up there wedge won't zero.

CC Roger. Copy.

SC Now. I can move the canister, but the
wedge won't let it go. It's stuck in (garble).

CC Okay. Why don't you go ahead to secondary
and zero those.

SC Will do.

CC SPT, Houston. Our computers are gone down
here in the MOCR, and we haven't got any data this whole pass.
And we were wondering how it's going. We'll be able to play the
data back later.

SL-II MC-253/2

Time: 2:13 p.m. CDT, 149:19:13 GMT
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SC Okay. I'll work my own.
PAO Skylab Control, Houston. Immediately after that report from Henry Hartsfield to Joe Kerwin, the control processor came back up in the Control Center. We're again receiving data. We're at 19 hours 25 minutes Greenwich mean time.

CC SPT, Houston. We got data now. We see sitting at 20 and 51 on the wedges.

SC Okay. Those must be the unbiased numbers. I've got bias (garble) getting ready to do a JOP 6, building block 1.

CC Roger.

CC Skylab, Houston. One minute to LOS;
Goldstone at 42.

PAO Skylab Control at 19 hours 27 minutes Greenwich mean time. We've had loss of signal now through Guam Tracking. The next station to acquire will be Goldstone some 15 minutes from this time. We're now at 19 minutes - 19 hours 28 minutes GMT, and this is Skylab Control, Houston.

END OF TAPE

SL-11 MC-254/1

Time: 2:41 p.m. CDT, 149:19:41 GMT

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PAO This is Skylab Control; 19:41 Greenwich mean time. Coming up on Goldstone, Texas, MILA, Bermuda pass across the United States, sweeping down from the Seattle region, across the mid-West, and out over the Atlantic around Cape Kennedy. Standing by for resumption of air/ground communications, this is Skylab Control.

CC Skylab, Houston. Stateside 17 minutes.
SC Roger. Houston, Houston, the CDR has surrendered. Where is E 699?

CC Stand by.

SC I'm glad you didn't snap back with the answer right away.

CC What goes there, Pete?

SC All this stuff you want me to collect down in the command module.

CC Somebody said that was a trash airlock, but we're not sure that's right.

SC No, the trash airlock is 634. That thought occurred to me too, and if you say 634, I'm happy.

SC Houston, SPT.

SC Houston, SPT.

CC Go ahead.

SC Hello, Houston. Report the white light coronagraph looks very nice. However, it doesn't appear to be quite 100 percent centered. There's a region of brightening. We're not seeing (garble). It's not that bad. But it's bright. On the 7:30 to 8:30 position of the display, and I can eliminate that by manipulating the visual pointing control, and that's for information.

CC Roger.

CC SPT, Houston.

SC Go ahead.

CC Okay, we're still looking at this problem we had awhile ago. When you said that the can was moving, but the counter there on your wedge wasn't moving, did the canister move the same way you had the MPC moved - or the little control stick?

SC The canisters moved appropriately.

CC Okay, we were just chasing a possibility of finding where you can get on the wrong side of the wedge, and the things are going opposite directions.

SC No, that doesn't appear to be the case. I was moving it back and forth across Sun-center and it was working all right.

CC Okay.

CC CDR, Houston.

SC Yeah.

SL-II MC255/1

Time: 2:50 p.m. CDT, 149:19:50 GMT
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SC Think you can go ahead now?
CC Go ahead.
SC I got a couple of words of interest to the EREP training boys that may be in the back room. I just finished loading one set of magazines. It went well, the procedure. For information for Jack Louse for the other guys, I did not put the magazine in the little clip for the holder. I just handheld it, and everything went hotsy-totsy.
CC Roger; copy.
CC And PLT; Houston. We sent you a message this morning, number 521; had something to do with the S190 heater, and there was a change to your checklist. Do you recall that one?
SC Who are you talking to?
CC PLT.
SC No, sir. It's finished just about breakfast time. I think we haven't checked the teleprinter messages. We're about to start S009. I'll call you back when I'm done, if I can.
CC Okay.
SC Still there, Hank?
CC That's affirmative.
SC I have 009. I want to confirm that the pot setting is 097 and not 970.
CC That's affirmative.
SC Okay, I just went to INITIATE; it's in the process of opening. I'm going to go look and see how the EREP pad - or do you want to tell me about it right now? I'm right here.
CC Okay, it's not the UF pad. It was a little message that concerned change in the S190 heater. You took the S190 window heater on and off - and it went in your checklist, and you probably will catch that it's wrong anyhow, but what the pad said was if the DELTA TEMP light comes on, push to test. And what we really meant to say is if it goes off, push to test.
SC Okay. What's the upshot? Are we going to use the heater now or not?
CC Not today, but it goes in the checklist for OPS.
SC Oh, another one of those.
CC Skylab, Houston. One minute to LOS. We'll be seeing you at Carnarvon at 43.
SC Okay, Henry. Also, I see the change here. Are we going to run the heater or not? Can you just tell me briefly? Are we going to run it while we're operating or what? On S190 window?
CC Stand by.

SL-II MC255/2

Time: 2:50 p.m. CDT, 149:19:50 GMT
5/29/73

SC Okay. You can give me the answer at Carnarvon. It's no swsat. Also, you had a question on the solenoid vent valve. We have not cleared the debris yet. We have not had a chance to clear any debris yet, and it really needs it.

CC Okay; copy. And to answer your question, we do plan to run the heater during OPS.

SC Okay.

PAO This is Skylab Control. We've had loss of signal from the Mila station. Skylab space station crossing the northern coast of South America, on the start of revolution 219. During the just-completed stateside pass, the science pilot reported that an initial run with the S052 white light coronagraph, which is one of the telescope mount experiments, "looked very nice". The pilot, Paul Weitz, reported that he successfully loaded one set of film magazines in the earth resources experiment package cameras, with no difficulties at all in getting the film to thread properly. And shortly after completing the loading of film in the EREP package, he went about his business in activating the S009 nuclear emulsion experiment, which will be retrieved and brought back aboard the command module. The experiment is mounted in the multiple docking adapter; it consists of stacks of emulsion which collect traces of primary cosmic rays, with particular emphasis on heavy nuclei. At 20:02, returning in 40 minutes for Carnarvon, this is Skylab Control.

END OF TAPE

SL-II MC256/1

Time: 3:42 p.m. CDT, 149:20:42 GMT
5/29/73

PAO This is Skylab Control; 20:42 Greenwich mean time. We have acquisition through Carnarvon. Very short pass and a little over 6 minutes because of the 3.8 degree elevation angle. Stand by for Carnarvon. A brief gap of about 8 minutes across to Guam. Standing by; Skylab Control.

CC Skylab, Houston through Carnarvon
5 minutes.

SC Roger, Houston.

CC Skylab, Houston. Have you done anything with the portable fan yet?

SC Yeah. We've got it set up. It's been running.

CC Roger. We were just going to suggest a location for you, but you beat us to it. I guess the only thing --

SC Houston put in the dome hatch before, and that's where we got it.

CC Okay, I guess the thing we were concerned about - we didn't want it too close to the intakes to the OWS heat exchanger - we kind of wanted it sort of opposite from that.

SC Well, we hadn't thought about that. We thought about the inlet skin of the OWS. The CDR will check that out on his way back down to the workshop.

CC All righty. And in regard to the plan for the S190 window heater, what we want to do on that is when we start regular operations is turn it on somewhere, hour or hour and a half prior to each pass, and then turn it off afterwards. And a little change we sent you goes to the prep checklist; so that should take care of it.

SC Okay, the hour or hour and a half will fit in with the way I just inserted that last change, right?

CC I've been told it will.

SC Okay. And the inspection of the S190 window shows it to be in good shape. So I sprung this one on you - (garble) for real. It surprised me very much in that on the S190 camera, all the dessicants are white, and I'm in the process of changing them right now.

CC Roger. Copy.

SC Also, there is a very large scratch on the inside of the S190 outer cover. I wish I'd have known it was there, because it gave me quite a start. When I looked at it and saw it, I thought it was in the glass.

CC Roger.

CC Skylab, Houston. We're about 10 seconds LOS; Guam in 57.

END OF TAPE

SL-II MC-257/1

Time: 15:53 p.m. CDT, 149:20:54 GMT
5/29/73

CC Skylab, Houston through Guam for
3-1/2 minutes.

SC Roger.

CC Skylab, Houston; one minute to LOS;
Goldstone at 19.

SC I'm still in the midst of SJC checkout.
And the other guys are running MO92 171.

CC Roger. And we're scheduled
recorder dump at Goldstone. We'll see how it goes.

SC Okay.

PAO This is Skylab Control. Apparently,
loss of signal from Guam, following a rather brief pass.
And except for, AOS and LOS calls from the CAP COM, and
one brief response, a rather quite pass. Sixteen minutes out
of Goldstone. For the next to the last stateside pass of
the day, spacecraft just to the southeast of the main island
of Honshu in Japan. The pilot, Paul Weitz, reported that
he was in the process of checking out the S190 multispectral
photographic cameras, part of the earth resources package and
the earth terrain camera, an associated experiment. While
his crewmates were running the MO92 and M171 joint medical
experiments. 15 minutes to Goldstone. At 21:03 Greenwich
mean time; Skylab Control.

END OF TAPE

SL-II MC258/1

Time: 16:18 p.m. CDT, 149:21:18 GMT

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PAO This is Skylab Control; 21:18 Greenwich mean time. About 50 seconds away from acquisition of Goldstone, perhaps less. Skylab space station will cross the Pacific coast just north of San Francisco; arc down over Arizona, New Mexico, El Paso, through central Mexico. Standing by for next to the last stateside pass of the evening, Skylab Control.

CC Skylab, Houston. Stateside for 15 minutes.

SC Roger, Hank. On the S190 filter - filter Alpha Alpha - what would appear to be water spots - you know little brown spots like a water drop had dried there around the edge for a short distance. Do you want me to try to clean it or just leave it be?

CC Stand by on that a little bit, Paul. Let us check the preflight map into that thing and see if it was there.

SC Okay.

CC Skylab, Houston. Whoever is free to answer we'd like to verify that you do have the portable fan set up such that you are pulling the warm air from the workshop and pushing it up toward the MDA.

SC You bet you.

SC It's pulling so hard it's trying to suck the SPT right out of the IBNP.

CC (Laughter) Roger. Copy.

SC Henry GARBLE here. Are you ready for a little malfunction on the EKEP gear?

CC Say again, Paul.

SC I say we got on S190 - when I go to operate on it, you get all 6 malfunction lights on.

CC Okay. You've got the film loaded. Is that correct?

SC That's affirmative and going through malfunction procedure number 2 for S190 leads to the box labeled camera monitor lodging carrier.

CC You're sure - I guess I had a look at that now but that rules out that film takeup thing we had before.

SC See if they go out.

CC Skylab, Houston. We just had a voice report for about the last 15 seconds, could you say again.

SC I say it done it twice on single and the frame got it's advance all right. I could make a mark on the film. I don't have to. Let me go ahead and pull the 40 frames or whatever the checklist calls for. We'll see if they go out.

CC Okay.

SL-II MC258/2

Time: 16:18 p.m. CDT, 149:21:18 GMT
5/29/73

CC PLT, Houston. We've got a suggestion here. Would you try cycling the S190 power off and then back on again and see if the lights reset.

SC I just did that, Hank, and they are reset. So I'll give her a single pulse now.

CC Okay.

SC When I thought we were home free I went ahead and gave him a single pulse. I heard it go. The malf lights did not come on. While I was over verifying the GARBLE - I looked back and all six are on again.

CC Roger. Copy.

SC Hank, do you think I ought to just go ahead and start this 40 frame sequence with all the malf lights on, or go ahead and recycle the power and reset it and see what happens.

CC Stand by one and let me see if I can get an answer. In answer to your filter question that was previously mapped prior to the flight, Paul, so we do not want you to clean it. There is a coating on that filter.

SC Okay.

SC Henry, you got a minute for another comment?

CC Roger, go ahead.

SC Okay, also we're going to have to move those spare hot water heaters some place tonight because they are in the way. I have to stow one of the GARBLE shields in the S190 before we run in the UF. So could somebody do a little research and just give us a page number for the procedure for that just so we don't have to mess with it.

CC Roger. Will do. And the word is cycle your S190 power switch and go ahead with your 40 frames.

SC Okay.

CC Skylab, Houston. We're about 45 seconds from LOS. We'll try to have an answer for your questions at Vanguard and that comes up at 44.

SC Okay, Hank, it's into AUTO SEQUENCE, now. I can hear it running. All six malf lights came on on the second pulse. It almost appears to be more GARBLE than when first operating pulse than anything else.

CC Roger. Copy. We'll take that data.

PAO This is Skylab Control. Loss of signal from the MILA station; 9-1/2 minutes to tracking ship Vanguard. Space station now beginning revolution number 220 as it crosses the longitude of Cape Kennedy. It was reported during that pass that all malfunction lights came on on the S190 earth resources camera system and presently the crew is running down through the malfunction procedures and trying to isolate the

SL-II MC258/3

Time: 16:18 p.m. CDT, 149:21:18 GMT
5/29/73

reason for the equipment malfunction. Perhaps they will have additional information over Vanguard on whether or not they succeeded in making the malfunction lights stay out. At 21:35 and 8 minutes out of Vanguard, this is Skylab Control.

END OF TAPE

SL-II MC-259/1

Time: 4:43 p.m. CDT, 149:22:43 GMT

5/29/73

PAO This is Skylab Control; 21:43 Greenwich mean time; 20 seconds out of acquisition at the Tracking Ship, Vanguard. Revolution 220. Standing by now, for CAP COM, AOS call. Vanguard pass almost 10 minutes long. Skylab Control standing by.

CC Skylab, Houston through Vanguard for 9-1/2 minutes.

SC Rog.

CC PLT, could you give us an estimate of how many frames you've run through the 190?

SC Be right with you.

SC What was it you wanted to know, Hank?

CC Roger. EREP would like to know how many frames you estimate you ran through the 190.

SC How many I have run through, so far?

CC That's affirmative.

SC (Garble) 3 singles and in a sequence of 40. And the sequence time there right on the money at a minute 24.

CC Roger. Copy. Did those malf lights stay on all the way there, Paul?

SC Yes, sir, Joey turned the switch to

STANDBY.

SC Code switch, that is.

CC Roger.

SC Could you give it the Conrad fiscal, put tape over the mouth like the (garble). How's that?

CC That sounds like a good plan. Hey, on the heater stowage, we've got that set up for a day-6 transfer, which you haven't gotten to yet. But if you want to do it, it's on page 2-22 Bravo in the day-6 transfer.

SC Well, do we do that before our first EREP pass?

CC That's affirmative. I think that's scheduled this evening. The day-6 transfer should have been accomplished by the CDR.

SC Not there yet.

SC Okay.

SC Hey, I guess I misunderstood that, Hank. That great bit long-winded list of stuff you gave me to transfer from the command module, I took it there. So I have to pick the rest of that out of the stowage book.

CC Roger. That's correct, Pete.

CC Skylab, Houston. We're about 1 minute to LOS. We'll be picking up Goldstone at 59.

PAO This is Skylab Control. Loss of signal from tracking ship Vanguard. One hour and 4 minutes from next acquisition at Goldstone, for the final Goldstone pass of the evening. Only 4 minutes and 49 seconds in that Goldstone pass. As the orbit moves westward, actually the earth is

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moving eastward. The orbit is staying in the same place. Rather quite pass over Vanguard, very little conversation. The commander was reminded that he should be involved in what is called day-6 transfer equipment, lockers and so on. And he said he hadn't gotten to that yet. At 21:55 Greenwich mean time; Skylab Control.

END OF TAPE

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PAO This is Skylab Control, 22:58 Greenwich mean time. We've had acquisition of data through Goldstone, no voice contact, yet.

PLT Roger, Houston. The board for the EREP guys. That board 91 has been on for 45 minutes, but I do not yet have a ready light. If they're ready back - in the back room, I'll give them a couple of readings that are (garble).

CC Okay, go ahead.

PLT Okay, Alfa 7, which is CAL SOURCE temperature reads Lower Limited. It's off. It acts in such a way, that I can't really tell if that's what it's reading, or if it's a bad meter. The CAL RAD current is reading right at zero. B7, I forget what that was. proper limit on that heat CAL is 80. It's reading at 83 percent.

CC Was that B - Bravo ??

PLT Yes, Bravo 7. Let me move up to B & I.

CDR Hey, real quickly, Hank, when you have a chance, you have to explain to me what you want me to do with the bad covering the new S019 film. (garble)

PLT Did you hear, Hank?

CC Roger.

PLT Hello, Houston.

CC Hello there, go ahead.

PLT Okay, did you hear Pete's question?

CC Roger, I guess we're sitting here trying to figure out exactly what he wanted. On the old film he was to vent the container, and remove the cover, and then stow the old film.

CDR And then stow the old film?

CC Stand by a minute, Pete. I'll get someone to get an answer on that.

CDR Yes, your message was garbled, and the pad was garbled to start with, so I'm not exactly sure what you want me to do. (Garbled)

PLT Okay, Henry. Bravo 7 on S191 is (garble) thermal (Garbled) It's 80 percent now. It was 83 awhile ago, apparently it's coming down. The cooler is running. I can hear it running.

CC I can hear it running, too. It almost blocked the transmission.

PLT Yeah, it's noisy up here with all this stuff going.

PLT We're preussing on with S192 alignment, and I tell you, that focus is a heck of a thing to try to work with. I can get a whole lot more out of that focus by deflecting it, than I can focusing it. Once I get it close, I'm never going to touch that darn thing again. I'm sorry I did now.

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CC Roger. I understand. It's always been a little touchy.

PLT Here's a couple of other items of interest - S192 coolers adjusted speed after 17 minutes of operation. And the 193 checked out. I got a funny I wanted to look into. We were in cross track, yes CROSS-TRACK configurant, and -

CC Okay, Pete, the message on that stowage is, you vent the old SO19 film canister, remove the old film, and store in F-510 Golf, and then stow the canister, the old canister in beside it. You can't store it with the film in the canister. And we're 10 seconds from LOS, and Vanguard's coming up at 21.

CDR I guess what you're saying is, we're going to bring the old canister home.

CC Affirmative.

PAO This is Skylab Control. From the scratchy noise it sounds as though we have had loss of signal from Goldstone. Sixteen minutes to tracking ship Vanguard. Temperatures in the Skylab space station are - in the work areas are still ranging in the mid to high 80s, through most of the measurements. The following is a summary of the current status of telescope mount experiments on Skylab. The Apollo telescope mount experiments, completed a completely satisfactory ground commanded and manned checkout at about 10:00 a. m. central time today. Initial observations of the Sun commenced soon afterwards, and experimenters reported the telescopes were functioning extremely well. Initial examination of quick-look data, which has thus far been down-linked to the ground has caused great interest among the ATM experimenters. The hydrogen alpha telescope, which the astronaut used to guide the ultra violet and X-Ray instruments to objects on the Sun, have exhibited great sensitivity and performance, showing a variety of phenomena, such as active regions and filaments on the Sun, and prominences extending out into the solar corona. Fine structures on the quiet Sun, which is one of the objectives of investigation by many of the experimenters is easily visible to the astronauts. The layers of the Sun at 100,000 degrees Kelvin, were seen by the Hayward spectroheliometer in the light of doubly ionized carbon at 977 angstroms, and show many patches of intense emission about 5,000 miles in diameter, some 10 times brighter than the quiet atmosphere. A sharply defined ring of emission appears at the solar limb. Fine structures can also be seen in the solar corona from many times ionized magnesium at several million degrees temperature. Details previously unresolved by satellites are visible on the

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Sun and are now being studied in greater detail. The white light coronagraph experiment of the high altitude observatory has obtained to date, over 400 high resolution images of the solar corona. Some most impressive results viewed by the experimenters, were the solar images through the Naval research laboratory instrument, S082, sent to the ground by television. One of these showed the Sun and the extreme ultra violet. The ionizing radiation extending to soft X-Rays, as sent to the ground by science astronaut Joseph Kerwin; these images showed a string of brilliant patches of light, so-called solar centers of activity, crossing the Sun from east to west. These are the regions from which the scientists hope that the solar flares will be recorded, and a small flare was believed to have been photographed with one of the instruments. Other parts of the extreme ultra violet image showed the quiet corona, ionized gas at a temperature of a million degrees. The X-Ray spectroheliographs of American Science and Engineering, and the X-Ray telescope of Marshall Space Flight Center, started to take scientific data on Sunday night at 03:39 Greenwich mean time, and has secured already several hundred photographs of the hot - that is greater than one million degrees - gas contributing to the solar corona, which is shaped by the solar magnetic fields. The analyses of X-Ray photographs are expected to yield information on electron density, and temperature of various stages of solar activity, ranging from the quiet corona to the most explosive phenomenon namely, solar flares. The ATM experimenters are being joined in their solar observations by a number of ground based experimenters around the world a combined study of the Sun. Daily and hourly reports of the ATM observations are being sent out to participants in this coordinated activity under way in more than 15 countries. Ten minutes to acquisition at the tracking ship Vanguard, and at 23:10 Greenwich mean time, this is Skylab Control.

END OF TAPE

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PAO This is Skylab Control, 23:20 Greenwich mean time. Fifty seconds of acquisition from the tracking ship Vanguard. Estimate on the Change-of-shift press conference in the Houston newsroom is now 7:15 approximately central daylight time with the Flight Director - offcoming Flight Director, Neil Hutchinson and other participants unknown at this time. Standing by for a Vanguard pass - 10-minute pass.

CC Skylab, Houston through Vanguard 10 minutes.

CDR Go ahead.

PLT Okay Henry, put a few more comments on the tape recorder for EREP quickly. What it amounts to is I can't align the thermal channel of Si92. Regardless of what I do with either the alignment knob or the focus, it sits there at 12 percent.

CC Roger, copy.

CC Pete, I think I finally understand this SO-19 thing. The canister cannot be stowed with it all put together. It won't fit in there so you have to vent it and remove the lid and then it'll go in the F-510.

CDR Take the whole one and vent it and take the back cover off? Is that what you want me to do?

CC Roger, take the old one and remove the cover, vent it, remove the cover, then it'll fit in the stowage location.

CDR The only trouble is we got 89 (garble) We'll have to look at that in a moment. I understand what you're saying now.

CC Okay and SPT?

SPT Hello.

CC Hey, I got a little change for you tonight on your 0026 pass. The purpose of our first day activities, of course, is see a variety of solar activity. Well, during last night AR-15 which is your scheduled target declined in intensity while AR-17 increased dramatically and has been emitting one small flare every hour or so. So we kind of think that AR-17 represents a much better target than 15. So we're asking you to look at AR-17 on building block 10 and that 00265.

CC That's a change of target only. Not operations or time.

SPT Okay, I was just writing it down. What's in it for me?

CC Ought to be a little more fun on it.

SPT True, okay.

CDR Henry, are you with me for a minute (garble)?

CC Roger, go ahead.

CDR I don't understand the very last line in my stowage where it says page (garble) page 2- (garble) and after

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TV, return to position-CM 182 from "side of A-9" (garble) sensitive. Maybe I'll tell you that later on. But if you can come up with what (garble) in the command module -

CC CDR, while we're looking on -- looking at that we just want to clarify once again that we do not want to touch the new S019 canisters. It's just the old one that we are going to take the cover off of.

CDR Very good.

CDR I understand that, Hank.

CC Hey we got some words to lay on you about the thermal situation. Do you want to hear that now?

CDR Yeah.

CC Okay, the average internal temperatures have shown a 5-degree drop in the last 24 hours. As predicted the magnitude of the drop per day is slowing down. The temperatures will be doing most - -

END OF TAPE

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reading I don't - I didn't really look at. The last one I gave you was that - the last time I looked at was that 80 percent I gave you.

CC Roger, copy. We're about 30 seconds from
LOS. Hawaii will be coming up at 03:00.

CC CDR, we'll give you an answer on that stowage
at Hawaii.

PAO This is Skylab Control, LOS Vanguard, the start of revolution number 221. Hawaii in 57 minutes. During the Vanguard pass, spacecraft communicator Dick Truly passed up to the crew the current assessment of the temperature situation on the space station. He told the crew that the average temperatures at the various sensor points had been - had a trend downward of about 5 degrees on the average during the last 24 hours. The lowering of temperatures occurred primarily during the sleep period when there was low crew activity and fewer items of equipment, heat-generating devices, being turned on. And the prediction is now here on the ground that the workshop temperatures will probably stabilize at around 80 degrees instead of the earlier predicted 70 degrees. Fifty-six minutes to Hawaii and at 23:33 Greenwich mean time, Skylab Control.

END OF TAPE

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CC - a 5 degree drop in the last 24 hours. As predicted the magnitude of the drop per day is slowing down. The temperatures will be doing most of their decreasing during the night when you're sleeping. And we expect to just hold our own during the crew-awake period. It appears that the models we're using were not quite as accurate as we thought. Thus we may have - they had led us to believe would be lower at this point in time. There may be a small portion less than 10 percent of the parasol that is not doing its job as a radiator. These last two items plus the observed performance to date has led to conclude that we will probably stabilize out in the neighborhood of 80 degrees rather than the earlier predicted 70 degrees.

CDR Okay. I know where that 10 percent is. You can run your hands around the wall and you can find it real easy.

CC Roger, copy.

PLT Hello, Houston?

CC Go ahead.

SPT (Garble) with a teleprinter. Can I advance it and take out the message?

CC Affirmative. And we've got a question for you PLT. I think we must have had a voice dropout here previously when you were talking about the S-193 cross-track contiguous. Can you give some more words on that?

PLT Yes, I expected the meter to indicate between 10 and 90 percent which is full sweep on roll on that thing. According to all the information we got onboard including the checklist, then all I did was oscillate between 40 to 60, which means that it's not rolling as much as it's supposed to.

CC Roger. Copy.

CC PLT, EREP says that's a normal value there, a normal range.

PLT (Garble) Houston. Why did the checklist say 10 to 90 on everything else including the (garble) data (gaible)? I'm sorry I thought it was supposed to go from 10 to 90 and back and forth.

CC We'll look at it some more, Paul.

PLT By the way, Hank, I terminated EREP check-out without doing the S-191 portion, standing by for words of yaw. The EREP's power down now and it's ready light never did come on and I never progressed then with 191.

CC Roger, copy.

CC PLT, Houston. What was your final reading there on B-7? Bravo ??

PLT I was in transit (garble) - the final

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Time: 14:57 CDR 06:19:57 CMT

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PAO This is Skylab Control, 1 hour, as you were, 1 minute and 10 seconds out of Carnarvon. 19:57 Greenwich mean time. Skylab space station midway through revolution number 233. Carnarvon, with a brief gap over through Guam. Next stateside pass will be the first Earth resources experiment package run of the mission. Arcking down across the western United States from the Oregon coast out near Brownsville into the Gulf of Mexico. Should have acquisition now. We'll wait for resumption of communications with the crew.

CC Six minutes.

CDR Roger. How do you read, Houston?

CC Roger. Reading you loud and clear.

CDR Okay, this is VOX from the EREP station. We just want to check the COMM. As would be, 7 minutes of daylight left to go. We got a flare, the PMEC hit \$60. The SPT did an outstanding job of running 7 minutes worth of flare, and of course our next pass is EREP. Couldn't of come at a worst time, right?

CC Rog.

SPT Houston, SPT.

CC Go ahead.

SPT Okay, I had a possible malfunction on S055. I want to pass on to you. When in MIRROR LINE SCAN, GRATING (gerb ley aeros all detectors, it tripped out, with the SCAN SPEC light. One of the detectors tripped it out about three or four times. I'm not dead sure which one it was, but when I ran it with detectors 5 and 6 off the line, it stayed put. It was okay. Maybe your people can look at their data on that. On the flare, the flare appeared to be in active region 14, which was where I was headed at the moment, and so we did get a couple of minutes of flare rise. The PMEC count on board, Pete did about 960 or just about saturated and was well into flare fall by the time sunset came.

CC Roger. Copy.

SC - lights. They're all hot.

CC Do you have a time for that, SPT?

SPT We got the alarm at about 7 minutes and 30 seconds daytime remaining. I didn't noticed the GMT, but you can figure it out.

CC Roger. We'll do it from there.

CC And Skylab for the CDR. In lap 43 Gordy Johncock was in the lead, and Benny Yukovich second. Bobby Unser is in the pits for gas. A.J. is out of the race. His car is being rolled by hand into the pits.

CDR What happened to Mark Donahue?

CC I didn't get the word on him yet.

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Time: 14:57 CDT 06:19:57 GMT
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CDR Want to do this alignment?
PLT Hello, Houston. How do you read the
PLT VOX?
CC Roger. Reading you loud and clear.
PLT Okay. (garble)
SPT Did you tell them about those 190
MALF lights (garble)
PLT No. I didn't. On the tape on A
record I did - We had a different thing with S190. When I
did the four-frame advance, I only had three MALF lights,
3, 5, and 6. However a couple of magazines, not necessarily
3, 5, and 6, indicated 5 frames advance rather than 4, and
we think that's just because you can get half frame setup
on that counter. We only heard the camera go four times.
So that's a little different status on the S190. I don't
think the 5 frame thing is significant.
CC Skylab, Houston. We see that you for-
got to ENABLE the MOMENTUM DUMP before this last dark, so
you can expect some TACS firings here.
CC And you might want to INHIBIT the
CMG SATS to avoid a master alarm during the EREP.
CDR Roger.
PLT Got too excited about your flare.
(laughter)
PLT Say, Hank, give me that report you had
on cloud over the sites again. Will you please?
CC Roger. We had an update on
Site 125, Smoke Creek is up to 0.8 now, and White Sands,
site 320 is up to 0.4 cloud coverage.
PLT Yippee. How about 125, the primary
descending site is Black Rock Desert. I assume that if I
can find them, you'll take either one, right?
CC That's affirmative, and we're about
30 seconds from LOS. Guam will be coming up at 13.
PLT Well, that was my fault. We had all
remembered to remind each other what we're enabling. Don't we
just leave it on annotated?
PLT Okay.
PLT We don't have to get on the defensive quite
this fast, you know it?
CPR Right?
PLT Yes. (garble) configuration right.
PAO This is Skylab Control. We have a
gap here between Carnarvon and Guam. Final passes of the
day over those two stations. About 5 minutes still to go
to Guam. We'll leave the circuit up. It was reported
during the Carnarvon pass, that while the Science Pilot
Joe Kerwin was standing by to assist the ground in maneuvering

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the Skylab space station into the so-called Z-local Vertical that is, where the axis of the spacecraft was oriented at right angles to the surface of the Earth, as opposed to toward the Sun constantly. In other words, the Earth Resources Experiment instruments looked directly down at the Earth, a solar flare alarm was detected by some of the astronomical instruments in the telescope mount. And he went through some description of how the solar flare appeared to him, and its duration. But at this time the space station is in preparation for going to Z-local vertical attitude for the up-coming Earth Resources pass over the continental United States. There was some discussion of cloud cover and some of the desired sites on the ground, which will be covered, scanned, photographed during the Earth Resources pass. 3-1/2 minutes to Guam. Standing by for the Guam pass, Skylab Control.

END OF TAPE

SL-11 MC-305/1
Time: 15:09 CDT, 6:20:09 GMT
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CDR - three percent. Charlie five reads 84 percent, Charlie 6 reads 46 percent, Delta 4 reads 73 percent, Delta 5 reads 14 percent.

CC Skylab, Houston. I'm reading you through Guam for about 5 minutes. And SPT we suggest you to go ahead and ENABLE the MOMENTUM DUMP.

SPT Okay, Houston.

PLT In 5 minutes we're - we'll be T minus 10 there.

PLT That's yours though right?

PLT I sat over on my side. (Laughter)

CDR And Houston, I've gotten all the readings and they're on A RECORD.

CC Copy.

CDR On time that's 19:50.

SPT Here, Houston?

CC Skylab, Houston. Were you calling?

SPT Yeah Hank. Hey when - when is the earliest I can do the S-192 alignment? Pete turned the S-192 power on time at 19:50.

CC Stand by one.

SPT Okay.

PLT Look in the - in the systems checklist. It's got the configuration in it.

CDR Have we started the maneuver jump?

CC Skylab, Houston. You're 20 on the 190 check - 192 check.

SPT Okay, I thought I should have really waited a 30-minute period on the cool down on that. I'll go ahead and do it. How about sometime later on today, give me a reading on that, will you, Hank, when I can do it? And - -

CC Okay, the word we got was 17 minutes after a warm-up start or cool-down I guess.

PLT Hank, also I have the door switch OPEN and I have yet to get a READY light on 192, but I think he followed that problem yesterday, right?

CC That's affirmative.

CC Okay, we're just about LOS through Goldstone at 36.

SPT Never mind. I understand.

SPT Yeah, I see. I got it. I didn't read the check-

list.
PAO This is Skylab Control, 20:20 Greenwich mean time, 15 minutes to Goldstone and the start of the first Earth resources survey pass of the Skylab mission. 20:20 back in 15 minutes, Skylab Control.

END OF TAPE

SL-11 HC-306/1

Time: 15:35 CDT, 6:20:35 GMT
5/30/70

CDR - four, three, two, one -
MARK AUTO CAL. (Garble) I got no ready light to go by.
PLT Houston, monitoring.
CC Good.
PLT 94 to MANUAL
CDR It hasn't come up (Garble) and I think that
PLT you ought to reject it.
CDR Okay. Going to STANDBY. Yeah (garble)
CDR And going back ON (garble) READY OUT - -
SPT Houston, we're on single gyro on (garble)
You might want to look at that.
CDR (garble) up again. God damn it.
PLT (Garble) do you have?
CDR The decision point was 3644. I blew
it.
SPT That's not here yet.
CDR I know, but I went to standby because
you said reject it. That started it all over again. Right?
PLT (garble)
PLT I guess I (garble) the decision point. I'm
sorry. It's a coast.
CDR No it's - it went back to it's preset 1 and
it's doing fine.
PLT That's fine.
CDR It's 90 percent (garble) 90.
PLT Well, then leave it there I don't understand it.
SPT I don't either.
CDR A-1 is 45 percent and B-1 is 45 percent.
PLT (Garble) coast at 37. Do you see it?
CDR Yeah, I (garble) something on the altimeter
though.
PLT Okay.
CDR I don't know what it meant to go to standby
when you told me too.
PLT I didn't tell - okay.
CDR Well, you know - reject.
PLT So you think there's only eight-tenths
coverage around (garble) huh Hank?
CC That's what they tell me.
CDR Okay, mode 13745 is (garble)
CDR And we've got the READY ON and - -

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Time: 15:35 CDT, 6:20:35 GMT

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CDR Ready - 808 A, FIELD MODE AUTO on 19.
PLT We've found it, how about that.
PLT (Garble) lookin through a little hole in
the clouds.
PLT What did you find?
PLT I found my site. Okay, on that (garble)
Very good. This thing tracks very nicely it's smoother than the
simulator.

CDR Okay, 52 there's MODE AUTO on 90 and trim
track contiguous - (garble) on 193 A at 3126 getting an intermittent
ALTIMETER UNLOCK light. I have (garble) on 3, 5, and 6 on S-190.
(Garble)? I have - still have an intermittent ALTIMETER UNLOCK
light on 190.

PLT Okay. I got - -
CDR Okay, I noticed when switching 92 on, I
had a flashing RECORDER MALF light as it shifted into high
gear, but I think that's normal. Still have an intermittent
ALTIMETER UNLOCK light on S190.

SPT And the one I got there was of (garble)
Smoke desert on that, Hank.

CC Roger.
CDR And I'm standing by for 4126 or a 193 READY
OUT and then 41 - -

CDR The READY light still didn't go out. Stand
by. (Garble) ON and 38 red ON

CDR 136 is the next one. And I do not have
a READY light on GAT and GAT X-MITTER light

CDR (Garble) OFF

PLT No, only the yellow ones. Okay.

CDR Okay, we got a SCAT X-MITTER light

PLT Okay, on the white sands and tracking.

CDR GET's on STANDBY on 36 RED to STANDBY at

38 -

CDR Okay (garble) 4336

END OF TAPE

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Time: 15:43 CDT 06:20:43 GMT
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CDR Okay, standing by for 43:36.
PLT MARK. SCAT ON. RAD ON. MODE 2
on the altimeter. (garble)
CC Paul, your special target is water.
PLT I get a RAD/SCAT gimble light occasion-
ally. I still have a SCAT X-MITTER warning light on. And
the next thing I'm waiting for ..
PLT (garble)
PLT (Garbled) It's too late now. We
should have shot those Corpus Christi sites (garble).
PLT I was going to look for them but they
snuck up on me.
PLT Dag nab it.
CDR (garble) the light went out on time, 4609.
SCATs in STANDBY. Add F193 36. 93A ON. 91 power OFF.
PLT Wait a minute. (garble) okay. You
got them. Nevermind.
CDR Stand by.
PLT 191 has to be back on in about 10
seconds
CDR MARK. It's on.
PLT Okay.
PLT Hey, there's Salt Lake Desert (Garbled).
It's pretty much in the clear, Houston. We're going to get
your data back to you. (Garbled) we're tracking over now.
CC Roger.
PLT (Garbled) Pretty good shape.
CC Copy.
CDR 5 -
PLT Dag nab it, we should have tried for
those Corpus sites though.
CDR 35 - check - S190 (garble) on.
CDR Now, we're (garble)
PLT For your information, Houston, (garbled)
forward gimble's (Garbled) at which point I can see just
a little bit of -
PLT Okay, that's it.
CDR What, what, what, that's not it for
me, man, I gotta go until 03.
CC Skylab, while you got a break here, I
want to point out that the housekeeping that's called out
for the CDR and SPT coming up here shortly is the pole
procedure, which we uplinked, and Rusty will be standing
by at Vanguard, for any questions you may have on that.
CDR Okay.
CC And in case you get to doing something
here again, I'll tell you now that we're about 2-1/2 minutes

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from LOS. And Vanguard will be coming up at 01, and we're scheduled for a recorder dump.

CDR Okay.
PLT Roger Hank. Did you get my call about the RATE GYRO?

CC That's affirmative and ASCO's looking at it.

PLT Okay. And we have a BATTERY CHARGE light ON. CBRM number 5.

CC CDK, Houston. Could you give us a ready lights status.

CDR You want the ready lights status?
CC Affirmative.

CDR TAPE RECORDER READY light is on, and 192 READY LIGHT is out. 191 READY light is out. 190 READY light is out. The RAD READY light is out. The SCAT READY light is out. The OUT READY light is out, and the 194 READY light is on.

CC Copy.

PLT (garbled)

CC Understand. No (garble)

PLT It's ready, it searched all the way around the box. All the way around the edges, and (garbled) It was sitting at about 35. They were bunched.

CDR But I don't think we timed out right. I think we were a little premature, so I'd like to run it again. I shut it off too soon.

PLT Well, maybe so, but I still think it went all the way around once.

PLT It may have.

PLT (garble) close the door,---

CC SPT, we're coming up on LOS, we'd like to enable 1 and 3 GYROS and go back to RATE GYRO (garbled) E NABLE.

SPT Roger. Okay to do that during the maneuver?

CC Affirmative.

SPT Okay.

CC SPT, we'd like that now, before we start back to solar inertial.

PLT Okay --

PAO This is Skylab Control. Loss of signal through the Mila tracking station. Nine minutes to Vanguard. Completion of the first Skylab Earth Resources Survey pass track number 20 over the continental United States. The crew came up on Goldstone, already in the voice actuated

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Time: 15:43 CDT 06:20:43 GMT
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communications mode, and where everything they said was relayed to the ground. They commented that the tracking with the EREP equipment was smoother than in the ground simulator. And as they operated the S190A multispectral camera array, they mentioned the completion of the photographs of the Salt Lake Desert. And coming across the Gulf Coast, they expressed a wish that they had scheduled in the Corpus Christi site, because of the clear atmosphere over that location. Skylab space station will be going back to solar inertial attitude now that the Earth Resources pass is complete. Vanguard in 7 minutes. At 20:54 Skylab Control.

END OF TAPE

SL-11 MC-308/1
Time: 15:59 CDT, 6:20:59 GMT
5/30/73

PAG This is Skylab Control 21:00 Greenwich mean time, one minute theoretically from acquisition at Vanguard, perhaps a little sooner. First Vanguard pass of the afternoon. Standing by at Vanguard, Skylab Control.

CC Skylab, Houston through Vanguard for 9 minutes.

CDR Roger, Houston. I have a question. The tape recorder usage shows about only 56 percent remaining and we checked the tape recorder visually and there's only about an inch left to fill on the spool. So, we're going to measure it and give you the exact amount and we'll run it out to depletion.

CC Roger, good show.

CC And SPT, the BAT CHARGE light you had was expected. All 17 CBRM's should be feeding that.

SPT Okay, when it first came up - that was number 6 - that's probably the first one - was the first one to show up.

CC Roger.

CC SPT, Houston. We believe that the flare you had earlier was a South Atlantic Anomaly and if you need to disable the tone light - -

PLT The laughter is going out hot.

CC CDR, Houston. The 190 malf light you reported on 3, 5, and 6, were they ON on the last sequence?

CDR No, I put it on tape - I think we were out of contact. I only had MALF light number 5 on when I restarted it this last time and so we lost 3 and 6 - so everything now is normal - 1, 2, 3, 4, and 6.

CC Roger, copy.

CDR And we'll give you the depth of tape. One and a quarter inch is left on the take-up reel and we'll go ahead and run her out now.

CC Okay, copy. One and one-quarter inches.

CDR Yeah, I don't have that anywhere. Yeah.

CDR Yeah, I'll do that in just a second.

SPT Oh, heavens. I gotta do an S-191 AUTO CAL. I turned that off.

CC SPT, Houston. We believe that we see the same Y-axis gyro problem we had earlier and we would like for you to re-enable after you get back to solar inertial.

SPT It's right here.

SPT Okay, are you gonna change the drift compensation of one or more of those gyros?

SPT I just don't know how long it takes you to figure that out.

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CC We'll have to get back to solar inertial Joe, so we can get some more drift checks.

SPT I got you.

SPT That flare thing was a good lesson, Houston. The anomaly was on the pad and I ignored it because we had the X-Ray and (garble) analyzer POWER DCWN. And god-darned if we didn't see the flare in XUV. (Laughter)

CC Roger.

SPT We did not see anything in X-Ray however.

CC Copy.

CDR Okay, friendly tape recorder on the AUTO CAL A-7 reads 80 percent. And A-8 reads 85 percent.

CC SPT and CDR this is Houston. When you go into the probe procedure here, we've got about 8 minutes of VTR available for you. If you find something very interesting to put on it. Over.

CDR Okay. Yeah, Rusty I haven't had a chance to even read that procedure at all. Period. So, I'm going to be starting from POO with that.

CC Okay, unfortunately you're gonna be through T-99 before we pick you up again at Goldstone.

CDR Well, that's okay. We need a chance to cool it, we've been hustling all day.

CC Rog.

CDR Yeah, but I guess we really ought to verify this MALF-5 here - make sure we took all the frames that we were supposed to have taken, huh?

SPT Yeah.

CDR Well, I don't know how many frames it was. Let me get rid of the tape recorder first. (Garble)

CC SPT, Houston. We're coming up on LOS about one minute and we'll be along LOS picking up Vanguard - or Goldstone at 13 and we're not getting the ATM panel closed out for unattended ops properly and we would like for you to do that in accordance with pages Charlie 3, Charlie 4, Charlie 5, of the ATM checklist and data book and we will get something up to you shortly to get your cue card corrected.

PAO This is Skylab Control. Skylab space station has passed out of range of the tracking ship Vanguard at the outset of Earth revolution number 234. Early in the Vanguard pass the spacecraft communicator Hank Hartsfield passed up to the crew the belief that the people on the ground who had been monitoring the ATM telescope mount instrument activity believed that the earlier reported solar flare was actually an alarm tripped by the so-called South Atlantic Anomaly, which is a region of trapped ion particles in the space above the Earth between

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South America and Africa. This opinion drew chuckles from the crew onboard Skylab. Skylab was in the midst of maneuvering back to solar inertial attitude during the Vanguard pass, going back to solar inertial after having been in Earth-looking attitude or what is known as Z-local-vertical for the state-side Earth Resources survey. The old Y-axis gyro - rate gyro problem has cropped up again apparently. The crew will re-enable the system after they've returned all the way back to solar inertial attitude. Next station is Goldstone, final Goldstone pass of the evening in one hour. 21:13 Greenwich mean time, Skylab Control.

END OF TAPE

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PAO This is Skylab Control; 22:12 Greenwich mean time. A minute out from the final Goldstone Tracking Station pass of the evening. During the end of revolution 234. Standing by for air-ground; total 8 minutes across Goldstone.

CC Skylab, Houston through Goldstone for 11 minutes.

SC Hi there. We just - Pete is ready to talk to you about the film.

CC Okay, go ahead.

CC Before we talk probe, I got one message for the SPT. We'll swap him one checklist boo-boo for an SAA flare. The poop we gave him a while ago was incorrect. The checklist and the cue card are totally in agreement; so we don't know what happened there.

SC Roger. Henry, I went through the checklist and noted that it still had all the things about shutting off rate-gyros and fine Sun sensors; so I just arbitrarily crossed them out. Is that okay?

CC That's okay. And for the CDR, quick update on the ND. At the end of lap 94, the sky was getting very dark; Johncock was in the lead, Lukevitch second, Bobby Onser third, Johncock was turning the track at a rate of 182.9.

SC Very good. Did you ever find out what happened to Mike Dunahue?

CC I still don't have that, Pete.

SC Okay, let me tell you about the probe. Let me get down to the wardroom where I can read. I'll be right with you.

SC Okay, let me go back to the way we found the probe when we took it out the very first time in the command module.

CC Okay, we're listening, Pete.

SC Yeah, I'm trying to get a speaker shut off where it's squealing.

SC Okay, the status of the probe - and we kind of put it back together again after reading your thing over - was two latches made and one trigger not made, with the capture latch button tilted slightly, but not all the way extended, to give latch. Okay, now we read through all your procedures all the way through to step 14. And we could find nothing wrong. And at 14A, we did it 10 times to verify it, except as we were doing 9 one time with our hands, we got the same hangup that we noted when we brought the probe in the first time. However, using the probe and going through step 14A 10 times, we could not get the problem to repeat itself. And

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so we have stopped there, assuming that we could get off all right and also assuming that you have enough information to go on. Because whatever is hanging it up, when it does it on occasion, is nonrepeatable, and there is no notable outside discrepancies in dimensions or anything like that. Now does that make sense with any kind of failure hangup that you could think of?

CC Okay, Pete, let me understand for sure what you said. Understand you went through the normal procedures for capture in the drogue, and it worked essentially nine times out of 10. And on one time, it did hang up the way you reported before, but other than that, it locked in all by itself.

SC That's not quite true, Rusty. On step 9 of your procedure, you have us doing the capture latches simultaneously with our exchangers or whatever we can. We've got to hang up one prime vent. Now realize that when you do it with your fingers, if you do them simultaneously, they all go easy. If you get a little out of sync, the last one will go very hard; but this was different to that. It very definitely - the trigger was free, but the button was caught and stuck somewhere between set and fully extend, if you follow me. Now with the probe and the drogue, we never could get it to repeat. Okay? But doing it with our hands that one time in your step 9, that came up with exactly the same configuration we found the probe in when we took it out of the drogue - the real time.

CC Okay. I guess we're going to have to digest this, Pete, and I think for the present time what you're saying is that you feel that when you cock it and put it into the drogue, that you can get it reliably to lock, at least reliably enough to press on from there and free load it and do a normal-on dock. Is that correct?

SC Yeah. Let me say that it looks like one trigger, possibly, can go all the way in and not trip its portion of that locking mechanism. And when the thing is feeding completely in the probe, that one latch is not made, and it won't make, because the button is now hung up or the slider rod - or the - that the buttons on the end of, the capture latch button. Now does that make sense to you? Because I hope I'm explaining it right, but that appeared to me to be what the trouble is. As far as us getting off -

CC Pete, you still there?

CC Skylab, Houston. You still there?

SC Yeah, do you read?

CC Okay, fine. We dropped out there on a hanlover between Goldstone and Texas. We have a good picture of what you said, Pete. I think we have a good mental image of it. Let me just say one thing. When you cock it for

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Installation in the drogue, you get more force to pull the spider forward to the lock position if you use the capture-latch release button on the front end of the probe rather than the handle - the cocking handle on the back end. You have a slightly greater spring force pulling it forward. You might want to just try that 10 times, using the probe end; that is, cock the latches from the front, leaving the handle in the back in the lock position. And try that one.

SC Yeah, that's the way we did it, Rusty. That's according to your procedures. We were setting the capture-latch lock mechanism by using the front button.

CC Okay, if you go on then to use the .. to put the handle on the back, you might want to check it there because it is a little weaker. I would suggest that if you have to undock, you use the capture-latch release button on the front to cock it, leaving the handle on the back in the lock position. And it looks like that'll work fine, and we'll get back to you, Pete.

SC Understand that, Rusty, and we can do that real -

END OF TAPE

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CC - - undock, you use the capture latch release button on the front to cock it, leaving the handle in the back in the lock position. And it looks like that'll work fine, and we'll get back to you, Pete.

SC I understand that, Rusty. We can do that real easy. One thing I that - I threw your other message away when I got this one. Tell me where a nut is to hold the pyro cover on and which stowage locker box has it got them in.

CC Okay, that's in A-7. And the bolt and nut that hold the D-rings on the side of A-7. You can take that off and the nut will fit the pyro cover.

SC Very good. Okay. Yeah, I don't think we with to screw with it anymore. We're happy with through 14-A, and I'm sure we can get off quite safely. And rather than tear into it any further, unless you want us to, why, I've already put it away, because we got to get on with the rest of the day.

CC Okay, just remember when you do go to get off, don't take that handle in the back and rotate it to cock - after you've got the probe in because that will undo that extra spring force.

SC I understand. Leave it in lock.

CC Okay.

SC Two reminders, though. Twenty-eight days from now or 21 days, whatever it is.

CC Okay.

SC Okay, one last thing, if you're still with us. We did take pictures of both the drogue and the probe, and there is a mark on the drogue and there's a mark on the probe head. But they - I put on there on one of my middle docking attempts when I really fired her up to about 1.2 feet per second, and I hit a little bit off-center.

CC Roger.

CC And, Skylab, Houston. We're showing 1 minute to LOS. We'll be coming up on Vanguard at 39, with a data recorder dump.

SC Okay. These guys are starting M131 and I am going to do some system housekeeping. I may not get anything to you - I'll do it later - -

CC Okay, one quick question. Did you put anything on the VTR with the probe?

SC No, sir. There wasn't anything to put on there that was really worth seeing.

CC Okay; copy.

CC And, CDR, one quicky. Mark Donahue is having engine troubles, and he's been in and out of the pits all afternoon.

SC Okay. Thank you. (Garble) Do you know where he is?

CC Try to have it for you at Vanguard.

SC Thank you, sir. Yeah, give me a rundown on Loyd Ruby and (garble).

CC Okay.

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PAO This Skylab Control. Skylab space station has gone over the hill from the Goldstone and Texas site for the final stateside pass of the day. Fourteen minutes now out of the Vanguard Tracking ship. Pete Conrad, during the just completed pass, described the progress in troubleshooting the docking probe problem that they encountered during the attempts to redock on launch day. They never could get the problem to repeat itself with both the probe and drogue. And one of this final comments, after describing the procedure they had followed, was that we're happy with it, and we think we can undocked with it okay. We have several statements on today's science activity in the Skylab mission. On Earth resources, general science experiments and the Apollo telescope mount experiment. The first is from Frank Littleton of the Johnson Space Center, Skylab Program Office, who says, "The mission is progressing well as we proceed through the 6th day of manned activities. This 6th mission day has seen the first Earth resources pass, with data taken over the western part of the continental United States. This is the first day and the level of experiment operation activity has close to that expected in premission planning. The electrical power shortages are causing regular adjustments in flight planning in order to provide optimum experiment results. This activity will continue; however, the loss of any major Skylab objectives because of electrical power shortages is not forecast at this time. Expanding further on today's earth resources pass, Charles K. Williams, who is manager of the Earth Resources Experiment package, engineering and technical integration office at Johnson Space Center said the following. "It was planned to initiate data take at 145° west longitude in an attempt to obtain S190 data over the Northern Pacific, Oregon Coast Contact. Because, of changing weather conditions resulting in 80 percent cloud cover extending 300 miles inland, this activity was not started until the pass became feet dry, that is no cloud cover." The Great Salt Lake Desert was essentially cloud free and observed by the crew. Under the track, an EREP test site was the White Sands Gypsum Beds. Additional information was obtained over Lake Tahl (?), Utah. Photographic, radiometric, and multispectral scanning data were collected over various types of clouds for the applications of improving the understanding of cloud dynamics, which is a factor in weather forecasting. Data collected over the southern Rio Grande Valley, of Texas will potentially result and an improved understanding of soil salinity. One of the six S190 cameras indicated a malfunction. It's significance and the overall success of the pass is being assessed. Program Scientist Bob Parker, had the following statement. "A number of semi-passes, nuclear particle collection instruments S009, S228, ED76 have been deployed so far in the mission and

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they continue to accumulate their data. The first of the scientific airlock experiments to be activated, was the ultraviolet stellar telescope, S019. During its initial use today, however, troubles were discovered over its articulate mirror system, which allows the telescope to look in different directions. The equipment has now been brought back into the workshop and after some troubleshooting examination by the crew, work is proceeding on the ground in an effort to find a procedure to correct an apparently jammed gear train. Hopes are high that a fix can be found in time to allow observations during 2 runs that are still scheduled for tomorrow. In the solar astronomy field, Bill Keathley of Marshall Space Flight Center, who is the ATM Project Manager, had the following observation. Today, the ATM instruments continued to collect data during observations of active regions 18, 17, and 14, as well, as filament number 62. Synoptic observations were also obtained. In addition the S054 X-ray photo multiplier was successfully activated and checked out. Excellent television down link images of the solar corona, solar disk and the line of H-alpha, and the solar disk in extreme ultraviolet were obtained this morning. 8 minutes from Vanguard at 22:31, Skylab Control.

END OF TAPE

SL-11 MC311/1

Time: 5:38 p.m. CDT, 6:22:38 GMT
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PAO This is Skylab Control; 22:38 Greenwich
mean time. We're in acquisition at tracking ship Vanguard.
SC (garble)
CC CDR, Houston.
SC Go ahead.
CC Okay. Could you do a little chore for us?
We'd like to get REG 6, 7, 8, and 16 off. The reason for
this, they went AUTO OFF during the EREP run, and we're in
the dark now and didn't get enough charge on them. They're
just going to do it again. So we'd like to go ahead and turn
them off.
SC Okay, wait a minute. REGs what?
CC Six, 7, 8, and 16.
SC Okay, REGs 6, 7, 8, and 16, OFF.
SC Hey, Hank, I (garble). At least I don't get
a light on 6. I got 7, 8, and 16 OFF, by the light. But I
don't have a light on 6.
CC Roger. Copy. We'll take a look at it. And
also, for information, we're going to be powering down the EPC
to conserve power.
SC (garble)
CC And we'll also be turning down the airlock
module's secondary coolant loop.
SC Okay. What'll we do, Ron? Watch for it
in (garble)?
CC Negative. I think we went just about where
we expected to. But a few of their BATs went down, sort of
border line there, on the auto cutoff.
SC (garble)
SC Yeah. I see (garble)
CC Pete, would you say your last again? We had
a dropout in voice there over Vanguard.
SC I saw a REG FIX light come on, and then it
went off again, all by itself. Did you guys command that from
the ground?
CC Okay, EGIL's trying to turn it off, but it
looks like it won't stay off. EGIL's going to command now,
Pete.
SC Okay. Have the light on now.
CC Pete, the (garble) over now. It got rain -
stopped by rain somewhere in 130 something laps, and Gordy
Johncock was the winner.
SC Very good.
CC He averaged some 159 plus, I think, was the
average for the race.
SC Okay.
SC Okay, it looks like that REG went back on again
by itself.

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CC EGIL's watching it, Pete.
SC Okay, other (garble) at the (garble) 131.
I'm going into the command module and refill a couple of things,
- like you need me.
CC Okay.
CC And, Skylab; info, no response required.
We also turned the star tracker off.
CC Skylab, Houston. We'd like to hold up on the
M131 run until we get back into daylight. And that's about
30 minutes from now.
SC What for, Hank? We're half way through
the OGI mode now.
CC Well, we've got a power problem here we're
working now, and I guess they want to get the loads down and take
a look at it.
CC Skylab, Houston. We'd like for you to power
down the 131, and we're about 30 seconds from LOS. Hawaii is
coming up at 47.
SC It's all powered down, Houston.
CC Roger. Thank you. And we'll try to have
some words for you at Hawaii here on what's going on.
SC Thank you.
PAO This is Skylab Control; 22:48 Greenwich mean
time. Loss of signal from Vanguard. Skylab space station
starting revolution number 235. The crew is in the midst of
a run of experiment M131, human vestibular function, and they were
instructed to discontinue that particular experiment because
of - some of the power loads were peaking out in the - peaking
high in the workshop because of some problem in the charger -
battery charger system. The flight controllers are sorting
out what the apparent problem is at this time. And hopefully
we'll have some resolution before too long. 57 minutes to
next tracking station, which will be Hawaii for the first time
this evening. 22:50 Skylab Control.

END OF TAPE

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Time: 6:15 p.m. CDT, 6:23:15 GET
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PAO This is Skylab Control; 23:14 Greenwich mean time. Skylab space station 33 minutes out of Hawaii, presently over the Indian Ocean just south of the tip of the Indian Subcontinent. To summarize briefly the electrical power situation as it's understood at this time in the Control Center, it seems that during the Z-local vertical attitude after the earth resources pass the charger battery regulator modules or CBRM's on the ATM electrical power system went to auto disconnect or at least about five of them did at a higher battery drain or power level than was expected. Coming back into daylight with the regulators and several batteries off line, the solar panels began feeding power into the CBRM's which in turn sensed a high voltage and disconnected. Electrical systems engineers are considering setting higher limits for the auto disconnect; how they will manage that remains unclear at this time. And we'll take - it will take an uncertain length of time to get all of the batteries and CBRM's back on the line and the system back to normal. But there is no great concern at this time and with the sleep period coming up it is expected that the electrical power system will be back to normal within a few hours. And right now we're 31 minutes from acquisition with Hawaii. At 23:16 Greenwich mean time, Skylab Control.

END OF TAPE

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Time: 18:24 p.m. CDT, 6:23:24 GET
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PAO Skylab Control at 23 hours 24 minutes and 38 seconds Greenwich mean time. At the present time Neil Hutchinson has indicated to flight controllers here that this team of flight controllers will stay on beyond the normal 6 o'clock change of shift and they would expect to stay on for several more hours, possibly 9 o'clock or later to make sure that this problem with the CBRM's, the battery regulator modules, can be solved and that indicates that there will be no change of shift briefing any earlier probably than 9 o'clock and it could be later than that. This is Skylab Control at 25 minutes and 9 seconds after the hour.

END OF TAPE

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Time: 18:46 p.m. CDT, 6:23:46 GET
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SC Hey there, Richard, it's nice to hear your voice again, babe.

CC Hello there. Ya'll doing okay?

SC I don't know, you tell us.

CC Okay. I'll tell you what we'd like.

If somebody is not all ready at the ATM panel we'd like him to start proceeding there and I have a few words here that I think we can explain generally what we understand to be our power problems now and we do have a couple of things on one - a little bit of configuration we'd like to ask you to do after we look at the data this pass.

SC Okay, Dick, Paul's on his way up there now. We're eating dinner but he's on his way up.

CC Okay, well then why don't ya'll just listen up then and if the other guy is here it'll keep me honest. I'll try to explain what we think has been a problem. In today's flight plan -

SC I'm here Dick. You want me to do anything while I'm here.

CC Stand by.

CC PLT, Houston. What we'd like you to try on regulator number 3 is to cycle it ON and then OFF about 5 times and if you'd get it to the ON position of the ON configurations, stop there. We want it CN if possible. Okay, and I'm going to start into this and tell you a little bit about what we think the problem is and we'll get back to you, Paul. When we planned today's flight plan we expected to get down to a state of charge minimum of about 45 percent when we did the EREP maneuver, and sure enough we predicted it fairly accurately and we did get down to about 45 percent. However it appears that we have some sort of an anomaly in the CBRM's in that we have an automatic low voltage tripoff circuit - that is designed and we expect it to trip off at about 20 percent. Actually what happened in the anomaly apparently is that some of the CBRM's at least 4 of them actually tripped off at about 45 percent, so that although we did follow a fairly nominal power profile we tripped several CBRM's off the line and it turns out that before your guys mission while we were unmanned for a few days, now using some hindsight it appears that one of our problems during that period possibly was tied to the same thing and our Marshall people and here and also here in Houston are taking a look at that. I don't think I'm going to try to go through the entire sequence of events but essentially what happened later was is that after your ZLV pass in daylight - we went into darkness after that pass - we hit - during that dark pass we hit the 45 percent and four bats tripped off the line which left

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Time: 18:46 p.m. CDT, 6:23:46 GET
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only 12 bats carrying the load during that night pass and then at sunrise we then - when those four CBRM's initially saw sunlight they got enough of a voltage spike to trip the four regulators off. So essentially the situation sort of - kinda went from bad to worse and we have ended up with a situation where we have a low state of charge and as of right now for the rest of the evening we are going to continue for the moment anyway planning to do the rest of the flight plan. The only big item that we're talking about that we may not be able to do is the FLT's ATM intended the pass after supper and I think I'll go over to you now if you have any specific questions about this maybe I can get a straight answer for you. Over.

SC To start with - specific answer on the procedure that you asked Paul to do. Our light status indicated that REG 3 was already on the line. Got a light but the meters don't. Now each time I put the switch to OFF the appropriate lights on the panel came on - indicating it was off but it still showed that of course the meter showed it was off the line. I put it back to ON and the light would go out but the meters would indicate that it wasn't on the line.

CC Would you please hit the CBKM all on switch.

SC I'm kind of glad that we got that, I think.

SC Okay, REG 3 now shows here announcement of 22-1/2 volts - it was pegged low before. It shows 5 amps up.

CC Paul, we show on TM that REG 3 is not outputting.

SC Well, I just told you what we show, Dick. Before we had CBRN ALL ON our onboard meters showed both pegged low, current zero. When we hit ALL ON it jumped up to volt 22-1/2, current +5.

CC Roger, Copy.

END OF TAPE

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SC ... to volts 22-1/2 current plus 5.

CC Roger. Copy.

SC Houston, SPT.

CC Stand by SPT. We would like on CBRM number

15 to get that REG on. And go ahead SPT.

SC Stand by one, I'll do it.

CC Okay. We're about a minute from -

SC I'm taking PLT's place.

CC Oh, okay. We're about a minute from LOS.

We're going to see you at the Vanguard at 0, correction, at 15 minutes past the hour. We are going to dump the data tape recorder there. And go ahead, we got about 45 more seconds.

SC I was just going to say that I went around the horn on all the CBRMs and 15, which is off the line, also showed 22-1/2 volts rather than pegged low.

CC Roger. Copy.

CC Skylab, Houston, as we go over the hill here

looks like the electrical power is at least stable now. The batteries are coming up so we'll see you at Vanguard.

SC Okay. I don't think I got reg 15 on but we'll see you then.

CC Okay.

SC (garble).

PAO Skylab Control, at 23 hours 54 minutes and

47 seconds. We've loss signal at Hawaii. Our next pass is about 21 minutes and 15 seconds from now as we reach the Vanguard station. I'll try and recap briefly what has been happening with the power system. You might be interested in knowing that this happened during the unmanned mode; a very similar event; we ran the batteries down below the 50 percent level of charge and there were a number of anomalies at that time. And a little shortly after that we had some trouble with battery number 17. Since then that's come back on line and is operating properly. The problem then was solved essentially by powering the batteries up and not using the electrical system. And during the pass - last pass, the problem begin during the EREP pass when we went to what's called Z-local vertical. That is to say the spacecraft is oriented toward the Earth and the ATM panels or solar panels are not aimed toward the Sun directly, and as a result battery charge is lost. That's a normal procedure for the earth resources passes. There is a loss of the battery charge because we cannot point both the ATM and the earth resources in the proper direction at the same time. At the end of that Z-local vertical EREP pass which went into darkness over South America, we had darkness and as we went back to ATM the solar array

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pointed toward the Sun which is called the solar inertial mode. When we went back to the ATM pointing toward the Sun we were already in darkness before we got it pointed. So that meant we had no battery charged during a half hour of darkness following that. No problem was noticed then until we had our next pass which shouldn't take place for a considerable length of time until after we come back into daylight or the Pacific Ocean. And the actual - the first time we had telemetry data after that was at Goldstone and the indication is that when we arrived at Sunrise the voltage from those cold solar panels was high enough so that - first of all I should explain it, four of those batteries were failing, or were not properly operating. They shut off when we went down to 45 percent of battery charge. That's a higher level than we would normally expect. Normally those should not shut down until we reach a 20 percent state of charge. For some reason this did happen. Four of those - at least four of those went off at 45 percent and this was out of range of tracking stations. Then those four batteries being number 6, 7, 8, and 16, four out of the 18 ATM solar array batteries. An additional battery 15 has been off for - since before the launch of Skylab II. Also during this period of time for an unknown reason regulator number 3 of poor battery number 3 also kicked off. So during the remainder of the night 12 or 13 batteries were left to carry the full load during that nighttime pass before we reached daylight and came back to Goldstone after the EREP passes. At that time those 12 or 13 batteries were carrying a load. Then when we came back after sunrise the voltage from the cold solar panels, having been in the dark for a long period of time, was high enough to trip off the regulators for batteries 6, 7, 8, and 16. And thus those batteries were not charged up in that daylight pass until we reached Goldstone. At the time we reached Goldstone we commanded regulators 3, which had failed separately, 6, 7, 8, and 16 to - to the ON position. They came on successfully, but then there was concern that going into the nighttime again we might have problems with the batteries running down if those batteries were on line. If they ran down below 45 percent, we were afraid they would again fail and we would have the problem over again. So those regulators were then again commanded OFF, protecting them from discharge. Then at that time we had no luck with battery regulator number 3. It came on for a short period of time but apparently went off again. During this last pass those batteries have been allowed to charge up. The spacecraft has been powered down using as little electrical power as possible right now. And this some impact, for example, on

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the M131 human vestibular function experiment. They had to shut down that because of power requirements. So the present time they're charging up. They have about 16 minutes of daylight. About 17 minutes before we reach the Vanguard station over in a darkness pass. And during this period of time we hope those batteries will be charging up. They did command battery regulator number 3 ON again during this pass over the Hawaiian tracking station. That command was not successful. They repeated - feeling that - the astronauts had indicated that the light switched on, indicated that it was commanded on successfully. The regulator is working but they were getting no voltage regulation. And so it indicated that - the meter that they have indicated it was not working. So after following that the astronaut again commanded the entire system off with a separate switch which commands all - all CBRM all charger battery regulator modules to ON. And he said he got an indication of some voltage. But the voltage that he got an indication of 22 volts is above the same level that he was getting on battery number 15. Battery regulator number 15 which has failed, has been failed for a good deal of time. So coming up at Vanguard we should expect some results. We have seen some indication that those batteries are charging properly now and the system is working. But again we're at rather low voltages and low charge. And it'll take some time to build that power back up. For that reason during, first of all, it's necessary during the most recent daylight pass, the daylight pass preceeding this present one about an hour ago, not to run the ATM in the unattended mode. There was no unattended pass during the last daylight pass of the ATM equipment; the solar telescope equipment. The next opportunity for an attended pass is at 50 minutes after the hour which is almost exactly 50 minutes from now. To do that they must command the rate gyros on. Those things must be commanded about 30 minutes in advance. Almost certainly will be commanded at Vanguard which is the next pass 15 minutes from now. If they are going to run an attended mode of the ATM experiment then they must command those on at Vanguard. That decision has not yet been made because of the power requirements they don't know if they'll have enough power to operate ATM for this next pass. So the present procedure is to recharge those batteries above the - well above the 50 percent level so there is no danger of them falling down to that level again. The only time that becomes a problem is when we go in extended periods of pass, when we are not pointed toward the Sun with our solar panel. And that, of course does take place in the EREP passes. This will undoubtedly bring about

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some new decisions on the EREP pass schedule for tomorrow for track 34. No knowledge yet of what kind of impact it might have on planning but it doesn't indicate that there is any sort of danger. As I mentioned earlier this is a problem that had been encountered during the unmanned period and was successfully dealt with then. So at the present time we have one regulator not operating properly and several batteries charged below their desired load. But all batteries are now charging and except the battery number 15 only one of the 18 which had failed earlier. This is Skylab Control at 2 minutes and 2 seconds after the hour.

END OF TAPE

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PAO Skylab Control at 12 minutes and 32 seconds after zero hour Greenwich mean time. Present time we're a little over 3 minutes from acquisition of signal on our clock here in Mission Control. At the present time there has also been some discussion of what changes may be made in EREP pass planning, taping those requirements to prevent reoccurrence of this problem of discharging the batteries below their 45 percent charge level. Most likely that consideration will be to reduce the amount of time allowed for maneuvering to the EREP pass position, the Z-local-vertical position, and also possibly limiting those daylight passes along a period shortly before noon about 48 degrees before noon and 20 degrees after, or vice versa. That is to allow the EREP passes to take place only in the broadest part of the daylight so that there would be time after that to allow recharging - also time before it to allow charging. This would reduce the amount of power consumption on EREP, although it'd probably have only a very small effect on the passes, which now run from about 30 degrees Sun angle to 20 degrees Sun angle. We'll stay live for acquisition of signal at Vanguard, at which time we should learn something more about the changes in that power system and find out whether regulator number 3 has come back on line. This is Skylab Control staying live at 13 minutes and 52 seconds after the hour.

CC Skylab, Houston. We're AOS at Vanguard for the next 9 minutes, and I've got a couple of notes I'd like to get to you before I get the evening status report.

SC Okay. Go ahead.

CC Okay, Pete, for the rest of the flight plan this evening, we are going - because of the importance of the, excuse me, because of the importance of the ATM operation this evening, we are going to support Paul's ATM synoptic operation that is scheduled on his flight plan this evening. There are a couple of things we'd like to remind him about that pass. One is, since we've had the fine Sun sensor off, he'll have to zero the non Sun-sensor wedges. And secondly, because we're still analyzing the problems with the S055 high voltage, we would like him to leave the S055 high voltage off during that pass tonight.

SC Okay.

CC And one other note for Paul. We'd like to delete out of his flight plan the S009 setup that he has in his details pad this evening. And a note for you in general - it looks like this - stand by. And be advised we are commanding the EPC back ON now, in order for it to get squared away for the later ATM operation. One note for you, Pete. On the flight plan this evening that we were to send up

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tomorrow, essentially, the situation we find ourself in now is that the electrical power situation has thrown us into a little bit of a flight - reflight planning - stand by 1. We are also - be advised we are about to turn the PRIMARY COOLANT LOOP back ON, and you can expect to get a C&W from the pump DELTA-P there. And to get back to flight plan, we probably will not be able to - -

SC

GARBLE.

CC

Go ahead.

SC

You mean secondary - or did you turn off

the primary also?

CC

CDR, Houston. We reversed ourselves and failed to get the word up to you. We turned the PRIMARY COOLANT LOOP OFF vice the secondary, as we informed you. We're now turning the PRIMARY COOLANT LOOP back ON.

SC

Okay.

CC

Okay. Okay. Back to the flight plan -

we probably will not get a message up to you tonight, Pete, describing the flight plan; however, basically what we're going to do is we are going to delete the previously planned EREP pass tomorrow. We're looking at several power options, but basically we're going to raise our limits on the state-of-charge red line. We're looking at some limitations on EREP data take of angles around solar noon, and all that's being evaluated. So we will not do EREP tomorrow, and before we say good night this evening, we definitely will have a flight plan in front of me that I can at least describe to you so that you can have an idea of what's in store for you tomorrow. And that's all I have. I'll turn it over to you.

SC

Okay, the - let me give you the food -

the CDR was a good guy again and ate everything. The - wait

1 -

CC

Okay.

SC

Okay, the SPT didn't drink item 62, coffee,

with breakfast - -

END OF TAPE

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SC Okay, the SPT didn't drink item 62 coffee with breakfast, nor did he drink item 62 coffee with his snack. He took all his pills that he was supposed to that was on the pad today and so did the CDR, for that matter. And that's about it for the SPT.

CC Okay. Go ahead.

SC The PLT ate everything except one coffee, item 62 of the snack. He had seven optional salts, and he took all the pills he was supposed to take today to keep up on the pad. And, excuse me, I had - the CDR had 8 optional salts tonight.

CC Okay, go ahead.

SC Okay, on the total log day 150, 16 millimeter activity EREP pass 1BHO190 nonapplicable, now under 16 millimeters. EREP said cue 1 was 7294, two was 9494, three 7014, six, excuse me, four was 6402, eight - five was 8165, (laughter) six was 7071.

CC Roger. Go ahead.

SC (Garble) no malfunctions. Also, on our 35 millimeter, we took - (garble) the log on that.

CC Okay.

CC Incidentally, while you're looking for it, Pete, the coolant loops are squared away again. They are both running. We are back in our nominal configuration.

SC Okay. On the 35 millimeter CI26 today, we took 22 (garble) pictures; 5 of those were drogue photographs, and 7 through 22 were some pictures we took of the dirt that's accumulating on our screens because we want to clean them here pretty soon. And the other pictures in that group were of our suit stowage locations for the other crews when we get back and some other configurations of equipment in the MDA.

CC Roger, Pete.

SC Okay, the flight plan deviations today: the CDR missed the (garble) 1 through 4 because he also missed his PT and PH because he was fiddling with the probe. And otherwise I think everybody else got everything done that - (garble) - You cut out that M131; so I assume you know about that. But the red stuff you didn't know about. I think anything else we've mentioned, you know about.

CC Roger. Understand, Pete. Yes, and we're talking about the 131 run this evening, and I'll get with you later on that. We still have about 2 minutes left in the pass. Over.

SC Okay.

CC Is that all you have?

SC Yeah, that's it. You know about anything that's inoperable. That's 019. If I have some time tonight,

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I'm going to go mess with that some more. I'm pretty sure that we've got some dirt in both those gear trains. The one of them I don't think makes any difference, but the gear train that is inoperable - if we can locate that without tearing it apart, we're going to do that. And I think I understand the gears, and I won't disassemble anything; so you don't have to get nervous about it down there. But we're just going to smoke it over some more.

CC Roger, Pete we'll do that. Be advised that one of the things on tomorrow's flight plan very probably will be a period of time to schedule - to take a look at S019, and we're working up a suggested procedure, I think, for you this evening. We've got about 1 minute left in this pass. We're going to have the next pass at Hawaii at 01:22, about an hour from now. And that will be a medical conference. And if you guys get through talking up there, we'll reconfigure and possibly have a short pass with me later on in that pass; so I'll see you later.

SC Okay. We don't have very much for the doctor; as a matter of fact, we don't have anything for him. We're in good health, but we'll talk to him. And if you want to get back at us, why don't you try to make it short.

CC Okay, real fine. We'll see you later.

SC Roger.

PAO Skylab Control at zero hours 25 minutes and 55 seconds Greenwich mean time. We've lost signal at Vanguard. There is now an extended period of no communications between the spacecraft and the ground. Our next communications is about 56 minutes and 54 seconds from now at the Hawaiian Tracking Station. That will be dedicated, at least in part, to a private medical conference between the crew and ground. This is the daily medical conference to report the status of the crew's health. The crew indicated during the pass at Vanguard that there would be very little to say, but they would hold it down to the lowest possible time. They have about 10 minutes at Hawaii. It takes a certain amount of time to set up for the private conference and to bring down the lines for that conference, but it's expected that sometime during that Hawaiian pass, we will have open conversation between them and the operational people here. The indication is that all those batteries - all those batteries are charging up properly now with the exception of 15, which has been out of order for at least a week. And also regulator number 3, which is still not giving the kind of reading we would expect. We should get some additional data on that when we arrive at Hawaii. We're presently in the night time - went into the night time at Vanguard, and we have about 23 minutes of darkness now; so

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there will be no battery charging until after we come into daylight, sometime before Hawaii. Usually the division is about a half an hour of darkness and about an hour of daylight on each pass. This is Skylab Control at 27 minutes 23 seconds after the hour.

END OF TAPE

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Time: 20:18 CDT, 7:01:18 GMT
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PAO Skylab Control at one hour 18 minutes and 25 seconds Greenwich mean time. At the present time Flight Director, Neil Hutchinson's team is still on duty. They normally would go off at 6 o'clock for a Change-of-shift. Hutchinson's team is responsible for detailed flight planning for tomorrow and they have stayed on to do some revision to that flight planning. After a very careful planning earlier of the details and electrical power constraints, during this afternoon for tomorrow's scheduled experiments and operations, Flight Director Neil Hutchinson's team is now re-evaluating the detailed flight plan in light of today's electrical power anomalies. During this last pass, spacecraft communicator Richard Truly told the crew that the Earth Resources photography and sensor pass, which had tentatively been scheduled for tomorrow will be cancelled so that new electrical power constraints and operational requirements can be determined. Changes to the EREP runs - Earth Resources Experiment package runs - may include limitations on the length of time for attitude adjustment on the spacecraft and restrictions on the length of Earth Resources data passes to permit some daylight period for recharging. While the Earth Resources experiments do not draw heavily on electrical power, the Earth oriented attitude which essentially ignores the relationship between the Sun and the ATM solar panels that are used to recharge the batteries to select these - Earth Resources passes do reduce the electrical power generated by the solar cells. During the first EREP operation this afternoon, batteries discharged to about 45 percent of their fully charged level. This should have presented no problem since the batteries are designed to operate down to 20 percent state of charge. Immediately following the Earth Resources pass, which is ended on the Earth's surface - is at a Sun angle of 20 degrees - or today that was in the late afternoon in northern Brazil. The space station is re-oriented to point the solar panels and telescopes directly at the Sun. Before this attitude change, however, could be completed, it takes several minutes, the space station passed into darkness. At the Vanguard tracking station all the charger battery regulator modules are functioning properly and showed a proper state of charge, that's slightly above 45 percent. That was exactly what was expected - charger battery regulator module number 15 which had failed with a lack of improper connection between the solar array and the charger CBRM - the charger battery regulator module that had failed during the unmanned portion of the mission many days ago. That one stayed in it's (garble) position but all of the other 17 batteries that are attached to the ATM solar panels were operating properly. Then the scheduled events after that was that we were - had passed into darkness at the Vanguard and we had

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a long darkness pass and 30 minutes of daylight before we received any data from the Hawaii tracking station. And - I'm sorry - at the Goldstone tracking station was our next data pass, that was a little over 30 minutes into the daylight time. We saw that the regulators for CBRM's 3, 6, 7, 8, and 16 had all gone off-line. We tried to command regulator number 3 on, but that failed to work. We did, however command regulators 6, 7, 8, and 16 ON. All of those worked perfectly and the chargers which had also shut down worked perfectly as well. So only one regulator, number 3, had remained OFF. Then at Vanguard at - the Goldstone pass was at 22:15 Greenwich mean time. At 22:44 Greenwich mean time at Vanguard we turned off the primary coolant loop to save power and we also had the regulators for 6, 7, 8, and 16 turned off because we were going into night and were afraid those batteries, since they were in use would go too low on charge and thus not make it through the night and we'd have the same problem over again. At Hawaii acquisition of signal which was after that night-time pass and into daylight again, the power system looked good and we made it through the night using only 12 batteries. The crew cycled the right switch again for regulator A a number of times, regulator A did not succeed again. I'm sorry regulator 3 did not succeed again. Regulator 3 having been in the fail mode since Goldstone. The crew also hit the CBRM ALL ON switch which regulates all those regulators. All of them were on successfully except for regulator number 3. They did get a slight amperage output - some electrical output from regulator 3, but it was relatively brief and did not appear to have any effect. We should get data now at acquisition of signal, at Hawaii where there's a private medical conference underway. And Vanguard on our last - -

CC - for about 10 minutes. How do you read?
SPT Loud and clear, Richard, how do you read
up here?

CC You read loud and clear. Y'll must be
awfully healthy this evening.

CDR We are and the CDR and PLT logged 10 laps
each around the water rings tonight. (Garble) we're getting
pretty sporty. Pretty soon we can run and do a front flip.

CC Roger. (Garble) I'd like you to advise
you that there's been a quite of people incredible at that
feat - and particularly all the guys over in your office.
And one of the things that we were wondering is if you've
learn to ride on the portable fan yet?

CDR No, not yet, we've got to master the
front back flip while we're running on the water ring lockers.
Actually if you stop and think about it for a second, I'll

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tell you how we get (garble). You put your feet in a groove and push off very slowly and tangentially along the water rings and then just start pumping your toes in each one of the locker grooves and then slowly stand up. And the tendency is to go too fast and you crash face first, but if you move slow, sure enough after awhile you get your body straight up so that you're absolutely running right along the radius (garble) and you can run around there all day long.

CC Man, that sounds like fun. Hey, if you guys will give me about 30 more seconds to put together some words to tell you about tomorrow's flight plan and if you'll grab a blank piece of paper I think in real general terms I think I can tell you what to expect, so I'll be getting back to you just here in a second.

CDR Go ahead.

CC And also for the PLT. At the ATM, if you have a chance, we're configured at Hawaii for XUV monitor TV down-link if you could throw the switch for us.

PLI Okay.

CC Thank you.

PLT Try to get started, I just started on this job (garble) let me get started, then I'll do it.

CC Okay, fine.

CDR And while you're waiting Dick, I just finished the fuel cell purge, both H2 and O2 on the command module and I'm (garble) turn off the purge line meter.

CC Okay, thank you.

CC Okay, Pete, if you're ready to jot this down I can tell you very briefly what we're going to do.

CDR Go ahead.

CC Okay. In the morning of course we'll have a normal post-sleep activities and then after breakfast for the CDR, you'll get the first ATM pass and then there's a period of time in there to do a couple of little house-keeping things and also to do EREP tape and this is - and then you'll have your lunchtime. And I think I'll go - -

END OF TAPE

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CC - - and also to do EREP tape and this is and then you'll have your lunch time and I think I'll go ahead and tell you what the other two guys will be doing to get us all up to lunch. For the SPT, he will be doing an M172 calibration right after breakfast and also during the time that he's doing that, we'll have a message for Paul to be doing S019 malfunction chasing. Then after those two guys are through with the calibration and the malfunction procedures the two of them will be doing an M131-2. And then they'll have lunch. Over.

CDR I've got all of it - everybody and everybody else said copy. Go ahead.

CC Okay. Then after lunch, Pete, you'll have one ATM pass and then you'll have a break and do some other - some M487 stuff and then another ATM pass or two I think it is and then assuming - making the assumption that we get S019 fixed - we will have an S019 ops period and then it will be - that's the end of the day - you'll be having dinner then. For the SPT, after lunch, he'll have an ATM pass after lunch for the one where you're going to be doing a couple of other things then following that ATM pass, we're going to repeat the M131-1 that we missed this afternoon. So again the SPT and the PL - and the PLT will do an M131-1 and the SPT will be the subject. Following that run, those two guys will do an M092/171-1 series with the PLT the subject and Joe as the observer. And that brings everybody up to dinnertime. Over.

CDR I got it all.

CC Okay. Then right after dinner, Pete, we've got a - scheduled in a few minutes for you guys to conduct a fire and rapid DELTA-P drill and then you and Joe I think - let's see - you and Joe have the rest of the evening off and Paul gets the ATM pass after supper. Over.

CDR Okay. I'll tell you those first couple of (garble) fire alarms we had up here, especially that one in the - in the heat exchanger. We got it drilled out pretty good on that, but I go along with that. We can think some other things out and I think that's a good idea. And do you want me to read this back? I've got it all.

CC No, sir. If you're satisfied, I am. I'm sorry we couldn't have it in your hand this evening, but we will - be advised, we will have the Flight Plans onboard when you wake up in the morning and also the detailed pads to support them. So I think we can let it go at that.

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CDR Okay. That's no problem. How serious does it look on the EREP? Is it just a matter of juggling or are you really going to have to go set your heads to work out the power or does it look like we just don't have enough?

CC I think we'll - stand by 1. Let me give you a straight answer.

CC Pete, I guess we're still scratching our heads about it but the things we're thinking about are just a little - slightly more restrictive time than we'll spend in ZLV and we're possibly considering restricting - coming into sunrise and going into sunset in solar inertial. However, I'd put that right now as speculation. We just really haven't thought it out. We will be doing more EREP and we'll plan it so we can get the most out of it.

CDR Okay. I understand. That's fine. It give us a little more impedance whether we do it or somebody else does it to get that other SAS panel out. which is a shame that thing is sitting there and I think once equipped with the right tools it's just a matter of applying a few pounds on that strap and that baby would be out and running.

CC Roger. Stand by just one second, please.
CC CDR, Houston. We still have about 2 minutes left in the pass. For your information and quite frankly I'm not sure what you've been briefed about on air-to-ground, but we are very actively working several alternatives that are in peoples minds about solving the SAS problem on this mission. We are - when Rusty left this evening he's going over to Marshall to work on a tiger team with some good thoughts along that line. And we'll get back to you and let you know the progress. But we're sure still working on that one. We haven't given up yet.

CDR How good was the TV that you got of that thing? Was it fairly good resolution? Do you really understand what it is that's holding it? Like we see it?

CC Well, to tell you Pete, we did get some individual frames that looked pretty clear to us, but we have a plan that we're working on to stick the television out of the minus-2 SAL on the pole that we - on a pole so that we can point it back and look at that SAS wing and that way we think if - and we are working on that, we're hoping to do that the day after tomorrow at the latest. And that ought to give us just super good resolution at that SAS wing, so I think then we'll have some real good information. Before I get caught short here I'm about 40 seconds from LOS. And

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the last pass of the day is the next one and that's at Vanguard at 01:54. Go ahead.

CDR Okay. See you there. That sounds great. I didn't think of that but it makes a lot of sense. I'm going to have to think about which side the straps are on that hold it, but I presume it's on the right side that you'd be looking at, but I'll have to think about that.

PAO Skylab Control at 1 hour 33 minutes and 8 seconds. As you noticed the Hawaiian pass was not used for a medical conference as it had been scheduled. Crew indicated earlier in public that their health was fine and they didn't feel that there was any need for an extended discussion and so most of that pass was - that pass was entirely devoted to discussion of the flight planning for tomorrow. One of the questions that was raised by the astronauts was whether or not they might do something to deploy that solar array panel which is attached to the side of the orbital workshop and is still held back in by a piece of strapping. Capcom Richard Truly indicated that Rusty Schweickart, an astronaut, is presently at Marshall Space Flight Center in Huntsville, Alabama, working in the neutral buoyancy simulator. He is working on that SAS deploy problem - that solar array deploy problem and so there is some work going on. A number of people testing ideas here on Earth to - for possibly deploying that. They also mentioned that they may use that minus-2 solar airlock to take a look at - a better look at that and get some additional photography of it. We may get some more details on that a little later. Let me again review for you the events and the times in the charger battery regulator module problem. Began at 22:15 Greenwich mean time, our first knowledge of it at Goldstone, that's at 5:15 central daylight time, when we discovered that 5 of the regulators had gone off line, five of the 17 that are still in operation. And that 4 of the charger and battery modules had gone - had automatically disconnected. Those are numbers 6, 7, 8, and 16. Regulator 3 was commanded on with no success. The other four regulators and chargers were commanded on successfully at Goldstone at 5:15 and they're following it - 5:15 central daylight time. Our next pass is Vanguard at 22:44 Greenwich mean time or 5:44 central daylight time. We turned off the primary coolant loop in order to save some power and we also turned off the regulators that had been turned on successfully at Goldstone because we were

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afraid those batteries would discharge once more during the nighttime pass which started at Vanguard. And then when we came up again on Hawaii at 23:47 Greenwich mean time, or approximately at 6:47 central daylight time, we found that we had made it through the night successfully using the 12 batteries with the others shut down, and at that time we found that everything looked the way it should. the power system was working properly. We once again tried the regulator switch for number 3, had no success again. A number of times we switched that on. We turned on all of the regulators, including those four that had been shut down during the overnight period and they worked properly. Number 3, however, although, it gave us small indication that power did not come on properly and at that time we also turned the regulator 15 on again. But regulator 15 which is to the battery that had failed before the manned mission had started, did not operate, although the battery heater came on properly. At Vanguard AOS at 0 hour Greenwich mean time - 0 and 19 minutes, or just a short time ago - approximately an hour and 15 minutes ago, the power system was stable and the primary coolant loop was turned back on. Now both coolant loops are operating and operating properly. Batteries are charging up as they should and are above the 45 percent level where we had some difficulty earlier. We don't expect any additional problem with this. We still do not have an operating battery regulator for number - battery regulator number 3. As long as that is out that will have cost us approximately 150 to 200 watts of power. You can get additional details on this at the press conference which is now tentatively scheduled for 9:30 p.m. central daylight time with Neil Hutchinson. He will bring along his EGIL, his electrical general instrumentation, and Life Support Systems engineer, Mr. McLendon. And that will be at approximately 9:30 central daylight time. This is Skylab Control at 37 minutes 18 seconds after the hour.

END OF TAPE

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PAO Skylab Control, at 1 hour 53 minutes and 9 seconds Greenwich mean time. At the present time we're on revolution number 236, just reaching the Vanguard tracking station and we're about 30 seconds from acquisition of signal at Vanguard. We have had no additional problems since the last pass. We're expecting a press conference in about 30 minutes at building 1 Johnson Space Center. We'll stay tuned now for acquisition of signal at Vanguard.

CC Skylab, Houston, we're AOS at the Vanguard for the next 8 minutes.

SC Roger, Houston. (garble)

CC That squeal really is bad, Pete. I can barely hear you and be advised I forgot to tell you at the last LOS we are going to be dumping the data tape recorder this pass. Go ahead.

CC Pete, while you're getting that - those volumes squared away, let me pass up one note for the SPT, I'm assuming that he's listening. On the M133 tonight on the sleep - the problem with the electrode moisture on the sleep cap. We think he might have better luck by using a sleep cap this evening from ring locker D412 which has been a little bit cooler. And we'd like him to do that if possible and please to report the pre and post sleep wetness conditions of the electrodes after he does that. And also this evening be advised on the CD2-2 DTO that we have scheduled, it is not necessary to close the - to reconfigure the ventilators in the sleep compartments due to the warm conditions down there. Over, and go ahead.

SC Okay, Jack and we're getting this squared away. Can you read me?

CC I can read you but I still hear the squeal. Why don't you go ahead and try it?

SC Okay, I think we got it now. The down link portion of the evening status report is not on B channel yet because the PLT and the CDR haven't finished their exercise we are - I'm on a bike right now (garble) And PLT is going to exercise also, so that'll be a little late coming down.

CC Roger, understand. And one thing, Pete, have you had a chance yet to look at S019 any?

SC No, I didn't get to it and we'll just wait until we get your instructions tomorrow.

CC Roger that Pete.

SC What - what we been doing Dick is the SPT has been trying to work out better geometry for his protocol on the bike. I think we're all trying to do that. We're juggling around with this thing trying to find the best way to ride it up here and it's not at all appearing that - that

SL-II MC-320/2

Time: 20:53 CDT, 7:01:53 GET
5/30/73

each guy is going to come up with the same basic way of fixing whatever the problem is.

CC

Okay. Understand. And stand by one.

CC

And Skylab, Houston, we're taking a good look at the ATM configuration since we're gonna be doing unattended OPS all evening and we notice that both H-Alpha doors, our TM indicates that they're open and so the S054 exposure setting is 64-256. So we would like to make sure that we go real carefully down to unattended OPS cue card on the ATM this evening. Also be advised that during the evening we will be putting together a evening questions - a set of questions from today's operation so sometime tomorrow -

END OF TAPE

SL-II MC321/1

Time: 20:58 CDT, 7:01:58 GET

5/30/73

CC carefully then unattended OPS cue card on the ATM this evening. Also be advised that during the evening we will be putting together an evening set of questions from today's operation so sometime tomorrow if you get a chance you might go through them and put them on the tape recorder. We've still got about 3 minutes left in this pass and I'm standing by.

SC Okay, we'll check the H-Alpha (squeal) these doors and (squeal) 54.

CC Okay, thank you much.

SC That's all ready, (garble). That's my fault.

CC No problem.

CC And Skylab Houston we still have about 1-1/2 minute. I have one quick question about the status of SOL9 that if you can remember from this afternoon, Paul, it might help us out this evening. Over.

SC Go ahead.

CC Okay, we think - we suspect that there is a potential that the problem is in the gearing between the tilt knob and the gear that's on the inside of the AMS on the right side - and just inside the tilt knob and it potentially might be some little bits of glue that were put in there just prior to flight. What we were wondering was did you attempt to rotate the gear on the inside of the AMS - on the inside of the tilt knob and if you did was that gear free or - and did it spring back and forth or was it jammed hard tight? Over.

SC Pete and I both attacked that thing. We tried to move the gear train from every place we could reach it and the whole system end to end is frozen up tighter than a drum.

CC Okay, fine. We'll take that input for sure and we'll be getting back - when you wake up we'll have some kind of a message onboard to describe how you ought to do that. We're about 15 seconds from LOS. Your first pass in the morning is going to be about 45 or 50 minutes after you wake up and there will be a stateside pass so ya'll have a good night's sleep and see you tomorrow.

SC Same to you Richard. Good night.

SC Say good night.

CC Say good night Dick.

PAO Skylab Control at 2 hours 2 minutes and 28 seconds Greenwich mean time. We have gone out of our range of the tracking station at Vanguard aboard the ship and we are now in the nighttime part of our pass. During this last daylight pass Pilot Paul Weitz was at the Apollo telescope

SL-II MC321/2

Time: 20:58 CET, 7:01:58 GET
5/30/73

mount solar telescope control and display panel. He was operating the ATM in the manned mode as had planned earlier in the flight plan. There was some doubt about whether that would be possible but it was considered - it's one of the synoptic passes which are performed approximately once every 12 hours and that was considered essential and so for that reason they did power up the ATM and use it during that manned mode. He was then told to configure that - the ATM - the solar telescope so that it could be controlled from the ground and that's the present arrangement. We're now out of range of a tracking station for 1 hour and 28 minutes and 32 seconds at which time we will come up again on the Vanguard ship off the coast of South America. So there will be a long period now of loss of signal. There is a press conference still expected to take place approximately 9:30 p.m. central daylight time with Neil Hutchinson and his electrical general instrumentation and life support systems engineer the man who is responsible for handling the battery operation and the power and coolant systems for the spacecraft. This is Skylab Control at 3 minutes and 50 seconds after the hour.

END OF TAPE

SL-11 MC-322/1

Time: 21:12 CDT, 7:02:12 GET

5/30/73

PAO Skylab Control at 12 - at 2 hours 12 minutes and 27 seconds Greenwich mean time. At the present time we have a note on the daily medical conference. There was, in fact, a private medical conference scheduled at Hawaii, and it did take place. The doctor in charge, Dr. Ross, informs me that that medical conference took place before we got AOS, acquisition of signal, on our clocks here. They actually had acquisition of signal about 2 minutes early on that pass. So there was a very brief medical conference, and here is a report on the medical conference held there. The Skylab crew is in good physical condition and continues to express their jovial personalities, in spite of some current power problems. And it's signed by Dr. Charles Ross for Dr. Hawkins of the medical directorate. No difficulties at all, as the crew explained themselves in open conversation earlier. I think we also might note at this time that Mi33 is expected to be performed again tonight. That means the crew will be sleeping in the orbital workshop sleep compartments. And Science Pilot, Dr. Joseph Kerwin, will be wearing the Mi33 helmet, a lightweight cap that's replaced every night. This has a number of electrodes in it. The electrodes last night, for some reason, apparently dried out too much, and we were not getting accurate reading after about the first hour and a half of the sleeping period. So tonight they are using a half of a different part of the space station (garble) in another locker where the temperatures were not so high. The electrodes on these are small rubber-capped devices. They clip off a piece of the rubber cap at the end, and there is a fluid inside them, and that's the fluid that seems to have dried out. It was assumed that that would not happen despite the high temperatures in the orbital workshop during the pre-manned period. But apparently, despite the rubber casing, the electrolytic fluid inside has dried out to some degree, and so we are going to use a different cap. Each of these caps is replaceable every night. They're to be worn about 15 times during the first 28-day mission. And we will then have sleep data, if the cap works properly and the electrodes are not too dry. We should have sleep data on Dr. Kerwin again tonight, as they sleep in the orbital workshop. We have 1 hour and 17 minutes before we have an acquisition of signal again. That will take place at Vanguard. About 15 minutes expected before the press conference with Flight Director Neil Hutchinson, who is going off, and the new team of flight controllers under Flight Director Charles Lewis has taken over officially. They are now doing some briefing and final discussion. This is Skylab Control, at 14 minutes and 58 seconds after the hour.

END OF TAPE

SL-II MC-323/1

Time: 21:26 CDT, 7:02:26 GET
5/30/73

PAO Skylab Control at 2 hours 26 minutes and 37 seconds Greenwich mean time. At this time Neil Hutchinson, the off-going flight director, has indicated that he may be about 10 minutes late for that press conference. That would be rescheduled now to 9:40 p.m. central daylight time. He is finishing writing status notes on today's activity for Flight Director Charles Lewis, who is taking over Control. This is Skylab Control at 27 minutes after the hour.

END OF TAPE

SL-II MC-324/1

Time: 21:51 CDT, 7:02:51 GET
5/30/73

PAO Skylab Control at 2 hours 51 minutes and 23 seconds Greenwich mean time. Neil Hutchinson, the offgoing flight director, is still occupied discussing the battery problem, and that problem is largely solved now. And he said that he will be available for the press conference at approximately 10 p.m. central daylight time. He's fairly certain he can get over there by then. I will come up and announce his departure from Mission Control, which takes about 5 minutes to leave Mission Control and to arrive at the other end. He'll be bringing with him his ECIL. This is Skylab Control at 51 minutes and 57 seconds after the hour.

END OF TAPE

SL-II MC-325/1

Time: 22:04 CDT, 7:03:04 GET
5/30/73

PAO Skylab Control at 3 hours 3 minutes and 57 seconds Greenwich mean time. At the present time the spacecraft is at 10 degrees north, 180 degrees west, just to the southwest of the Hawaiian Islands, on revolution number 237, a descending node. Flight Director Neil Hutchinson has left Mission Control, and we believe he is in route now to the press conference at building 1. He should be there momentarily. This is Skylab Control at 4 minutes and 24 seconds after the hour.

END OF TAPE

SL-II MC-326/1

Time: 23:04 CDT, 7:04:07 GET

5/30/73

PAO Skylab Control at 4 hours 7 minutes and 20 seconds Greenwich mean time. This is the final Skylab Control report for today. The next report should be at sometime after 6:00 a.m. tomorrow morning. The EREP pass - post-pass planning has been completed. We now have some data on weather conditions over the United States and which of those passes are now believed to have been successful. A total of 12 sites and paths have been identified as successfully completed. I will list the number of those sites at the end of this message. At this time no worldwide weather data is available; so we cannot confirm whether or not the investigations taking place in other nations have been successfully completed. Three foreign countries were under surveillance today for short periods of times for individual and scientific investigations. There was an investigation in southeast Mexico, one in Columbia for agricultural area, and one in the Amazon basin of Brazil. Those are the three foreign investigation sites that were listed for today's activity. Whether or not the weather was satisfactory, we do not know, and will not know until tomorrow morning. This is the list of sites successfully completed today with - where weather conditions were valid and valuable for data. And the sites are the following: 716 408B 717 408B 718 167 221 196 746 220 208 101 222 198 238 294 746 325 748 598A 116 301 and 132 306. These are task and site numbers for the 12 investigations successfully completed by the EREP overflight today. This is the first EREP pass made at Apollo groundtrack 20 from the coast of Oregon into the northern part of Brazil. This is Skylab Control - the final message for the day and, until tomorrow morning, signing off at 9 hours and 38 seconds - 9 minutes and 38 seconds after the hour.

END OF TAPE

SKYLAB II

VOL. III

SL-II MC327/1

Time: 06:01 CDT, 7:11:01 GET
5/31/73

PAO This is Skylab Control; 11:01 Greenwich mean time. Skylab space station less than a minute now from acquisition at the Carnarvon-Australia Tracking Station, at which is scheduled a wakeup call from CAP COM Bob Crippen. We'll stand by to listen to the call.

CC Good morning, Skylab. We're AOS over Carnarvon for the next five minutes.

SC Good morning, Crip. Roger.

CC Roger. You sound awful cheerful this morning.

SC Yeah, we got a good night's sleep last night, and I think we're just getting more used to sleeping up here.

CC Very good.

SC Everybody else has tromped out. I've got to see where they are.

SC Everybody is awake, and Joe is just angling himself from his bunny cap.

CC Rog. You might be interested to know that we managed to get data from the MA last night.

SC Very good.

SC Yeah, very good, Crip.

SC Uh - you with me?

CC Rog.

SC Okay. I woke up about 3 hours into the sleep period, checked the brain cap, and I had good contact on the (garble) two and the back two electrodes - to the middle two I didn't have any lights. I just snuck into bed again and went back to sleep. The sleep cap looked completely normal last night when I broke it out of the dome locker; so apparently that bunch in the dome locker didn't get heat struck at all.

CC Roger. Were those two lights still out this morning?

SC No, they're on now.

CC Okay.

SC What he really did was wake up 3 hours into the sleep period and go slip it on Paul's head.

CC I'm sure Paul would appreciate that.

SC Jack come up with anything new over the night working on the power profile?

CC No, I'm afraid not. We're still looking at it. There is some concern about we may have to eliminate some activities today, but we still haven't fully evaluated that.

SC Okay.

SC Back to bed.

CC You don't get your day off until tomorrow.

SC Good.

SL-II MC327/2

Time: 06:01 CDT, 7:11:01 GET

5/31/73

SC Is tomorrow really the day off?
CC That's affirm. Don't you think you've
earned it?
SC Yeah, we were just waiting for you to
tell us.
CC Sorry. I thought you had that word already.
SC Well, we weren't really sure, but we'd
been discussing the fact that we took the opportunity, I think,
to get some fairly good photography with the Hasselblad and
everything, and I hope we have some good weather tomorrow. I
noticed that the weather seemed to get worse, generally, around
the world for the last 3 or 4 days, as opposed to when we first
took off.
CC Roger. We'll take that as the morning
weather forecast.
CC Pete, I guess on the power thing - are you
aware that we're not planning on doing EREP today?
SC Yeah, Crip. We have a - we got an out-
line of the flight plan last night (garble) you said that
it was going up, but I think it's - was the M131 that Paul
brought to (garble). There's troubleshooting and Pete's doing
a lot of ATM while those guys catch up on the M131. That's
basically it, isn't it?
CC Roger. Affirm. Just wasn't sure whether
you had gotten hold of it or not. We're going to have LOS
in about 30 seconds. We'll pick you up again at Honeysuckle
at 11:14, at 11:14.
SC Okay, thank you.
CC Skylab, Houston.
CC Skylab, Houston. We're AOS over Honey-
suckle for the next - oh, about 5 minutes.
SC Okay.
CC My correction on that. It's going to be
a short one - it's about 1 minute.
SC Okay.
CC Okay, Skylab, we'll pick you up again at
Texas at 11:44 - 11:44, and we're short two teleprinter pads -
sort of innocuous - no big hurry. We'll probably be sending
those up over the States in case you're running up to (garble).
And if you thought you had lots of paper yesterday, wait until
you see today.
PAO This is Skylab Control; loss of signal
through Honeysuckle Tracking Station. Twenty-seven minutes
to Texas and Mila, Bermuda, Newfoundland, on across to Madrid,
for a stateside and European pass. Spacecraft Communicator Bob

SL-II MC327/3
Time: 06:01 CDT, 7:11:01 GET
5/31/73

Crippen mentioned to the crew because of the reduced power supply available to Skylab, the earth resources experiment package or EREP pass for today has been scrubbed. And some conversation was devoted to the fact that tomorrow is the crew's day off. Everybody should have a day off. At 11:17 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-328/1

Time: 06:43 CDT. 7:11:43 GET
5/31/73

PAO This is Skylab Control less than a minute away from acquisition through the Texas Station for the state-side pass. Cross through from Texas and up over the Appalachians, New England, coming out around Newfoundland. Currently, the charger battery regulator modules, CBRMs, as they're known in acronyms, - 16 of the 18 on the telescope mount power system are on line. Their average rate of charge, or state of charge, is 92.7 percent of capacity. One of the CBRMs was lost after launch before the crew rendezvoused with Skylab. The other was lost yesterday. And they've been unable to bring it back on line. At this time they modified - somewhat modified the Flight Plan. It's being evolved considering the slightly reduced power situation. Slightly reduced over what it was yesterday, that is. Not considering the total loss thus far of the workshop power generating system. We're AOS with the crew. We'll stand by for the conversation.

CC Skylab, Houston. We're 1 minute to LOS. We'll have you again over Madrid at 12:05, 12:05. We have uplinked all the teleprinter pads at this time, and we will be doing a data recorder dump over Madrid.

SC Roger. (garble), Houston. Roger. Crip, there's a message on the tape recorder concerning a CO2 measurement this morning which didn't appear to work too well. Also I'm just briefed myself. I notice you got me scheduled for water system maintenance. It fixed itself, and we're going to let sleeping dogs lie for now.

CC Okay. Understand. If fixed itself. What was that measurement that didn't work quite right?

SC The CO2 thing. You know that little black box?

CC Okay. Rog.

SC I get the same readings all over, and they're high.

END OF TAPE

SL-II MC-329/1

Time: 07:03 CDT, 07:12:03 GET

Date: 5-30-73

CC Skylab, Houston. We're AOS over Madrid for the next 9 minutes.

SC Roger.

CC And, Paul, if you get a chance, we'd like to verify if you deployed ED76 yesterday.

SC That's verified.

CC Okay. Roger. And if Pete's listening - we - you probably noticed that we sent him a CBRM troubleshooting procedure. That was message number 0731, which looked almost like the one that he did - that somebody performed yesterday. We'd like you to run through that one again today at the scheduled time, and just wanted to reverify that we'd like to make sure that it's done in the daylight.

SC Okay, I'll tell them.

SC I got it.

SC I'll tell you, Crip, when I get back and leap out of the bed in the morning, straight toward the ceiling, and grab my pants and dive back into them before I hit the overhead, and I really find myself lying flat on the floor, and then I'm going to know I'm back.

CC Rog. You're going to have a hard time explaining that one to Jane.

CC Skylab, I was still waiting to get the morning news for you, which I haven't received yet. But you might be interested to know that Gordon Johncock won the Indi yesterday, and at only 132 laps, that they had to call it after rain.

SC Understand. And, Crip, I understand that there are a few guys over at our office that don't believe that we can run around the water wing lockers; so we're willing to take a small wager from any of them that really don't believe that. Furthermore, to sweeten the pot, last night in our training session done after 03:00, I might add not on company time, we also added a little fling to it, where we now can run around the water ring lockers into front flip and back flip. So if they want to sweeten the pot before we show you this publicly on TV, we're willing to take any wagers.

CC I'll see how many takers you have.

CC Skylab, Houston. I've got some sad news in this morning's paper that the blob is dead. I'm sure that Joe will be glad to hear that. And they killed it with nicotine.

SC (Crew laughing)

SC I'd like to be the blob.

CC Getting to feel it now, huh?

PAO Flight just informed me that they picked up some residual blob out of Lake Houston, and what the lady has in her aquarium was a shark. (Garble) will be overgrown with it by the time you guys get back.

SL-II MC-329/2

Time: 07:03 CDT, 07:12:03 GET

Date: 5-30-73

SC You guys are all going nuts down there.
SC That's what I was thinking.
SC We're going nuts up here too; the CDR thinks
he can slide.
CC I have been getting that impression. You
might be happy to note that the Astro's won a ball game yesterday,
4 to 1.
SC Hurray! Are the Cubs in first place?
CC Stand by 1.
CC Rog, Paul, if that question was were the
Cubs in first place, they still are.
SC Super
SC That wasn't for me. That's for Joe.
CC Sorry - sorry about that.
SC Hey, Crip, - I had a problem with our
Hasselblad - HDC 02. It's blown 2 fuses now. You got any
remedy down there before I just start replacing fuses?
CC Roger. That's a new one on me; I hadn't
heard about the problem. Got - the HDC02 has blown 2 fuses, huh?
Okay, we'll look into it. We're about 30 seconds from LOS; we'll
have you again at Honeysuckle at 12:51.
SC Okay.
PAO This is Skylab Control. Loss of signal
through Madrid Tracking Station. Skylab space station crossing
the North Africa coast, just west of Alexandria, Egypt. We'll
cross down over the Nile valley. Just west of the Red Sea, on
revolution 243; next station - Honeysuckle in 36 minutes. To
recap again the current situation on the ATM power system - 16 out
of total 18 charger battery regulator modules, CBRM's, are on line
and producing power at this time. One of the two that are off-line
somehow failed after launch, and the other one was among 4 that went
off-line yesterday and did not come back on during the evening.
During the - just prior to acquisition on this stateside pass,
the surgeon reported that the crew - each of the crew men appeared
to have gotten about 6 hours good sleep. This will be verified
later in the day with the crew status report. This is the surgeon's
educated guess as to the sleep status of the crew. Just before LOS
Madrid, it was reported that one of the Hasselblad still-cameras on
board kept popping fuses; it had blown 2 fuses so far. So at this
time the camera people on the ground are trying to sort out why this
should happen and will come up with a fix to pass to the crew.
33 minutes to Honeysuckle. At 12:17 Greenwich mean time, Skylab
Control.

END OF TAPE

SL-11 MC-330/1

Time: 07:49 CDT, 7:12:49 GET
5/31/73

PAO This is Skylab Control 12:50 Greenwich mean time. Minute and half, theoretical time to acquisition at the Honeysuckle tracking station midway through revolution 243. Fairly short pass over Honeysuckle, then there'll be long gap till the next stateside pass.

CC Skylab, Houston we're AOS over Honeysuckle for the next 1 and 1/2 minutes.

CDR Roger, Houston.

CC Roger, and a - Pete, if possible we would like to get a reading off the frame remaining counters off the ATM, this morning.

CDR Okay, I'm going to put them on B channel.

CDR You with me, Crip?

CC Affirm.

CC We're going to have LOS, here in about 30 seconds, we'll have you again at Goldstone, at a 13:20, at 1320.

CDR Okay. Hey, JOP was 14839-82A-182-82B-1455-52 was 7461 and 54 was 4995.

CC Thank you.

PAO This is Skylab Control, loss of signal now through Honeysuckle tracking station. Another 25 minutes approximately to Goldstone. During the up coming stateside pass, the telescope mount television will downlink some real time, solar TV images. During the up coming ATM pass over Honeysuckle, the main topic of conversation was getting readouts on - from on board, of frames remaining in the ATM cameras. 24 minutes until the next stateside pass. At 12:56 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-331/1

Time: 08:16 CDT, 7:13:16 GMT

5/31/73

PAO This is Skylab Control, 13:16 Greenwich mean time. Two and a half minutes away from stateside pass, acquisition by Goldstone. On across from just south of San Diego coming out over the Great Lakes and across Nova Scotia, Newfoundland. There is a - an ATM or Apollo telescope mount solar astronomy pass, which will be underway during this stateside pass with Pete Conrad operating the ATM console. Meanwhile Joe Kerwin will be involved with calibration of the M172 experiment the body mass measuring device. Pilot Paul Weitz, after operating the television system for the ATM pass, will go on into malfunction checkout of the ultraviolet stellar astronomy S019 device which apparently has a hung up gear drive on the mirror system. This is a device that is extended out through the antisun airlock, scientific airlock. Later on in the day Kerwin and Weitz will alternate between being subject and observer on the M131 experiment. Human vestibular function, which measures the effects of motion upon the persons equilibrium in zero g. Should be coming up with acquisition shortly, across the stateside pass. Apparently the charger batter - battery regulator module number 3 is off line permanently as it appears now. No further troubleshooting is planned. All steps have been followed. In trying to isolate the problem from the ground - We'll be getting a picture, not of the solar image, but of Pete Conrad at ATM console -

CC Skylab, Houston, AOS over - (garble)

SC (garble)

SC Hello, Houston. Are you there?

CC Yeah, you were just cut out by a lot of noise.

You'll have to say again anything you said.

CDR Okay Houston. The TV downlink and TV 13 are

in conflict with one another. I'm ready to give you TV downlink. Are you ready to receive?

CC We got it. We - we have a good TV picture,

Pete, and we ready - -

CDR Yeah, I know; but you want ATM TV, isn't that

right?

CC That's affirmative.

CDR Okay, coming at you.

CC SPT, Houston.

CDR Go ahead.

CC Wanted the momentum dump inhibited at 12:00 and

reenabled at 14:21.

CDR Yeah, I know. It was in the middle of the

postsleep. I didn't catch it. Joe's not doing the one - As soon as he's ready to go, I'll inhibit.

CC Copy.

SPT Assuming an answer right away, is that a new

streamer on the east limb there, Houston?

CC Say again.

SPT Okay. When the coronagraph people have a chance,

it looks like as best we remember it new corona streamer on the east

SL-II MC-331/2

Time: 08:16 CDT, 7:13:16

5/31/73

SPT limb. Is it or is it not?
CC Stand by.
PLT It's at your convenience Bill, there is no
rush on it.
SC Houston, are you getting live TV now?
CC That's affirmative, good.
SC And you're also keeping the VTR running, huh?
CC That's affirm.
PLT Hello, Houston; Skylab.
CC Go, Skylab.
PLT Okay, previously when I run - the PLT has
run JOP 6, I've noticed that the S052 operate light will on occasion
just go out and stay out for a few seconds on the order of 5 to 10
and then come back on. I have not caught it enough to give you good
time hack on it nor have I been able to keep track to see if it is
associated with the end of a frame exposure. One of you guys look at it
this pass and see if it does it again, would you, please?
CC Copy, Wilco.
CDR Houston, CDR.
CC Go CDR.
CDR Roger. Is the star tracker ... use the star
tracker today or not?
CC CDR, Houston.
CC CDR, Houston.
CDR Go ahead.
CC Don't enable - Do not enable the star tracker
until we have had the S019 results. Also, Pete, if you get a moment,
we did not get the frames remaining on S056. At your convenience.

END OF TAPE

SL-11 MC-332/1

Time: 08:33 CDT, 7:13:33 GET
5/31/73

SC It's reading 5377 right now and I just ran
patrol normal so subtract the patrol verbal from that.
CC Copy.
CC Skylab, Houston; LOS in 1 minute. We'll have
you -

SC Say again, Houston.
CC LOS in 1 minute, we'll have you at Madrid at
13:42.

SC Okay.

PAO

This is Skylab Control, 13:38 Greenwich mean time. Brief gap across here from stateside pass into Madrid and Canary coverage. Current status of Skylab Mission and accomplishments of yesterday are spelled out in a report from the Skylab Program Office that's issued each morning. The summary of the mission status and accomplishments and shortcomings as well. In the preface to the report which reads as follows. Both attended and unattended operations of the Apollo telescope mount were conducted. The first 2 daylight cycles were not run due to power limitations that made it necessary to turn off the experiment pointing control system. Charger battery regulator modules known in the trade as CBRM's numbers 3 and 15 are inoperative. The first Earth Resources experiment package pass of the mission was conducted and 15 of the 85 tasks site objectives were met. Problems with the S190A and S191 sensors were experienced during the pass. The M131 experiment run which is the human vestibular function experiment scheduled again today was aborted because of the orbital workshop electrical power problem. Valid data were received for only 1 hour of the entire night on M133. Internal workshop, internal orbital workshop internal temperatures continued to decrease. The average interior temperature was 86.8 Fahrenheit on orbit 220 and 83.5 on orbit 7. The orbital workshop gas temperature decreased from 86.9 degrees to 81.9 over the same period. Approximately 47.5 percent of usable thruster attitude control system impulse remains. During the day yesterday, the command service module probe and drogue were checked out by the crew going through a malfunction procedures and checkout on the capture latches and the crew determined that they were indeed satisfactory and they will be used in the normal manner for undocking. During the just completed stateside pass we had television downlink from the space station showing Commander Pete Conrad at work at the ATM console as well as a few images of the Sun through the various ATM television cameras. The coronagraph as well as the full Sun image showing the sunspots. Other things that turn scientists on. About a half minute now to Madrid acquisition. The Earth Resources package pass that had been scheduled for today has been deleted from today's modified flight plan. However, otherwise it's a rather busy day for the crew.

END OF TAPE

SL-11 MC-333/1

Time: 08:42 CDT, 7:13:42 GET

5/31/73

PAO Should have acquisition for 8 minutes through Madrid. And about a like period through Canary Islands Tracking Station, overlapping coverage. Skylab Control, standing by at 13:42, Greenwich mean time.

CC Skylab, Houston. AOS for 8 minutes.

SC Roger, Houston.

CC Houston, how about giving us the words on that Hasselblad 3. I just took some pretty nice pictures of the St. Lawrence and Nova Scotia. What do you want us to do, change the (garble), change the magazine, or change the camera plotting.

CC Yeah. We're fixing to give you a procedure on that. Also, that is a new stream of it coming up.

SC Okay. Thank you.

SC Houston, CDR.

CC Go, CDR.

SC On the last 82-alfa exposure, (garble) 3 minutes and 20 seconds. My Mickey Mouse watch, I just set it, and it is a 4 minute and 26 second exposure.

CC Copy.

SC And ah - I'd really like them to look at using the event timer. You just have to bring it up and down, because I think we're goofing a lot of pictures that way. Because we have trained to use that event timer and we'll fix and get it right the other way because we're going to keep doing things like I just did using my little wrist watch. And if we can use the event timer for all those shutdowns we'll be in a lot better shape. I don't have much power, of course. How about having them look at that.

CC We copy and are working it, Pete.

SC Thank you.

CC PLT, Houston.

SC Go ahead.

CC On the cameras. We want you to obtain 01 from F523 install batteries - -

SC Wait a minute, Bill. Wait a minute.

CC Copy.

CC CDR, Houston. We need the DUMP INHIBIT.

SC Okay.

SC (Garble), Dr. Thornton.

CC Say again, didn't copy that one.

SC The PLT says he's surprised you're concerned with that one, Dr. Thornton.

CC (Laughter) As a matter of fact, someone jogged memory.

SC Okay. Listen, Doc, did you understand what I told you about what happened to the cal? It's not on the bottom of the thing which I had tightened down with my fingers as tight as I could. It backed off at zero-g and I think that plate was sloshing a little bit.

SL-II MC-333/2

Time: 8:42 a.m. CDT, 7:13:42 GET
5/31/73

CC Yeah. We copied that, Pete.
SC Okay. Go ahead with the dope on the camera,
Bill.
CC Okay. Obtain 01 from F523, install batteries,
remove the mag from 02, verify that the film is not jammed by manually
advancing. If it's sticky or you have any problems advancing, obtain
new mag from F510 Charlie. Install the new mag on 01. Ensure mag
signal is white, and cycle the camera to verify operation.
SC Okay. I got that. Now, you said install new
magazine in 01, but if the old one appears to not be jammed and can
be advanced manually, you want to put it on 01. Right.
CC That's affirmative. Also, switch lenses if you
have to change the magazine. And the final configuration, then, on
camera 2 would be 100 millimeters, and camera 1 would be 80 millimeters.
That's only in the event that you swap magazines.
SC Wait. I was under the impression that we're
going to swap the camera 01, anyway.
CC We want you to swap the lenses anyway.
SC Those were given up by - Given up by camera 2.
I'll go look. If I have any more questions, I'll call you.
CC We copy.
CC PTL, we've got some power conservation changes
we'd like you to make here, when possible, if you can copy them
before we go LOS.
SC Wait one.
SC Go ahead.
CC Okay. On first item. AM fans - circulation
fans, 1 goes off, that's panel AM203.
SC Yeah, I know where they are, go ahead.
CC Okay. 1, 2, and 3 off on 203. On the thermal
control system duct 1, fans on bus 1, circuit breakers on OWS panel
614, 1 2 3 and 4 open, the circuit breakers.
SC You said you wanted power down duct 1?
CC That's affirm.
SC Okay.
CC And we'll be LOS in about 20 minutes, we'll have
you Honeysuckle at 14:27.
SC Okay. I'm going to turn off the airlock fans
and the duct 1 fans.
CC That's affirm.
PAO This is Skylab Control; loss of signal as the
space station crosses over Central Africa. Out of range from Madrid
and Canary Island tracking stations. Early in revolution number 244,
just prior to LOS, CAP COM, spacecraft communicator, Bill Thornton
voiced up to the crew a few changes to conserve electrical power on
the space station by turning off some of the fans in the airlock
module and one of the thermal control ducts, as a means of conserv-
ing power. Next station Honeysuckle in 34 minutes. At 13:52 Green-
wich mean time, Skylab Control.

END OF TAPE

SL-II MC-334/1

Time: 09:10 CDT, 7:14:10 GET
5/31/73

PAO This is Skylab Control, 14:10 Greenwich mean time. Sixteen minutes away from next station pass through Honeysuckle. At 10:00 a.m. central daylight time, in the Johnson Space Center News Room - small briefing room - there we'll be a news briefing by four of the telescope mount principal investigators. This briefing will not be carried on the broadcast line inasmuch as - there'll be a stateside pass underway about that time. Participants in the briefing will be William C. Keithly, who is Marshall's Space Flight Center's Experiment Manager. The Principal Investigators taking part in the briefing are Dr. Robert McQueen, for S052; Dr. Ed Reeves, S055; Dr. Richard Towsey, S082; and Dr. Giuseppe Vienna, S054 - 14:12 Greenwich mean time. Reminder again, 10:00 a.m. central daylight time - telescope mount Principal Investigators briefing, small briefing room Houston News Center. This is Skylab Control.

END OF TAPE

SL-II MC-335/1

Time: 09:24 CDT, 7:14:24 GET

5/31/73

PAO This is Skylab Control, 14:25 Greenwich mean time. Two minutes out of Honeysuckle, Australia, tracking station. Almost 10 minutes across that station. Reminder again to newsmen in the Houston News Center, 10:00 a.m. central daylight time, Principal Investigators on the ATM experiments will brief on the data received to date. Participants: William C. Keithly, Marshall Space Flight Experiment Manager; four ATM principle investigators; namely, Dr. Robert McQueen, on S052; Dr. Ed Reeves, S055; Dr. Richard Towsey, S082; and Dr. Giuseppe Vienna, S054. Standing by for Honeysuckle acquisition. Skylab Control at 14:26 GMT.

CC Skylab, Houston, AOS for 9 minutes.

CC Skylab, Houston, AOS for 9 minutes.

SC Roger.

CC PLT, Houston.

PLT Go ahead.

CC How is your S019 malfunction procedure going,

Paul?

SC Ah, about 4 different reasons I'm just now starting it.

CC Copy.

SC Okay, I'm down to the point I've got it - I've got it extended out. All those gears are locked up solid. There's - You absolutely cannot move any of them ... Also in the process of looking at it and checking out yesterday, we're sorry to say that we touched the mirror in one place - Let me tell you where it is. As I look at the mirror - extended - it's out beyond the tilt divit point and it's about an inch to an inch and a half in from the edge. Do you want us to try to clean it, or just leave it go?

CC Just leave it go, Paul. There's no problem there.

SPT Okay.

CC LOS in 1 minute. Hawaii at 14:47.

PAO This is Skylab Control. Apparently we have had loss of signal through Honeysuckle. Ten minutes now to Hawaii acquisition. Ground track will - appears to pass directly over the main island of Hawaii. Toward the end of the Honeysuckle pass, pilot Paul Weitz reported he was running slightly behind in the malfunction troubleshooting on the S019 ultraviolet stella astronomy instrument, which apparently hung up in the gear drive that moves the articulated mirror yesterday. This instrument is extended through the scientific airlock. The other remaining scientific on the antisolar side of the workshop. This particular experiment - Principal Investigator is scientist astronaut Dr. Carl Henise who has been in and out of the control room quite frequently, trying to assist the ground in ways of getting his instrument to perform as it should. A third reminder, at 10 a.m. central daylight time, Principal Investigators experiment briefing on the ATM data received - receipt of data so far in the small briefing room, Houston news center. Returning again in 8 minutes for the Hawaii and stateside pass at 14:39 Zulu Skylab Control.

END OF TAPE

SL-11 MC-336/1

Time: 09:45 CDT, 07:14:45 GET
5/31/73

PAO This is Skylab Control; 14:46 Greenwich mean time. Coming up on acquisition at Hawaii Tracking Station, waiting confirmation of data and voice. We have AOS now.

CC Skylab, Houston. AOS for 9 minutes.

SC Roger; Houston. We're S019.

CC Go.

SC Just got the outer cover off. It says note the position of the white spacer. It looked normal to me, it was concentric about the axis of rotation of the handle, and was laying immediately underneath the knob. As far as I could tell, it was normal. Now, if this doesn't work yet as a last resort, the inner gear - the gear that attaches to the knob on the inside of the tape, has a shaft - you know, that sticks up above the gear itself. How about laying on there with a pair of pliers and trying to torque it to break it loose. Is that a good idea or not so good idea?

CC Stand by a half.

SC Okay.

CC Hey, Paul. They don't want you to torque that with pliers unless there - unless you can find something loose to manually do it why don't torque it with pliers.

SC All right.

CC CDR, Houston.

SC Yeah, go ahead.

CC Pete, there are about 3 items here for you to copy.

SC Wait one.

SC Go ahead.

CC Pete, we can do this ground command on experiment pointing mode if you'd like for us to do that.

SC I'm not following you. You understand the checklist just goes to FY. You want it in experiment pointing?

CC We want it in experiment pointing for unattended operations, Pete.

SC Okay. I'm looking at it. I think it's the panel on my checklist; says go SOLAR INITIAL and I'll put it to experiment pointing. We either going to change the checklist for - got to put it on the pad when you come up.

CC Copy and concur, Pete.

SC Go ahead with the next one.

CC Okay. On the recorder, AUDIO on the 204 panel. I want that in the B position, Baker position. We want you to power down the VTR, turn it off. We'll give you a call to power it up prior to S052 this afternoon. We'll dump that tomorrow.

SC The VTR is powered down at this time and did we have something else kicking for us?

SL-II MC-336/2

Time: 09:45 CDT, 07:14:45 GET
5/31/73

SC Go ahead.
CC Just a minute.
SC And also the voice recorder has been
in VTR all this time since yesterday after EREP.
CC Pete, we copy that last. If your main
power is still ON, we want it OFF. That is if it's in STANDBY
because that's using some power.
SC Okay. I'm with you now. All right.
CC LOS in about 30 seconds here. Goldstone
at 14:59.
SC Roger.
SC And then at 14:59 they want me to come
back here and do this (garble).

END OF TAPE

SL-II MC-337/1

Time: 09:58 CDT, 7:14:58 GET
3/31/73

CC Skylab, Houston, AOS for 7 minutes.

SC Houston, CDR.

CC Go CDR.

SC I'm ready to do your EPRM thing. Be advised to support scheduling though. You realize that I'm holding 10 EREP tape cleaning swabs in my hand and a few other things, and I'd appreciate it if you guys would look at that and the scheduling a little bit closer. About 2 or 3 times now you got us doing things where we got 89 pieces of gear out and you got us running all over the spacecraft. I think you got enough guys down there to think out the flight plan a little bit better than you're doing. Now I'll go ahead and do this procedure for you.

CC Pete, go ahead and do your EREP at this time if that is the problem and we copy and understand.

SC It's not a problem now. I had my little clock buzzer in my pocket, but I just wanted you to know where I was - what I was in the middle of doing.

CC We copy, Pete.

SC You can't raise Ron's checklist and stuff now. We'll wind up holding 6 or 8 things in our hands and running all around see. You got to think about that a little.

CC Copy, Pete. And we'll try to do better.

SC Are you there Houston?

CC Go.

SC Hello Houston, you there?

CC That's affirmative. Go Paul.

SC S019 is fixed. I ain't got it back together yet but at least it's free.

CC Copy it's fixed, and you're putting it back together. Congratulations, you just made him happy.

SC And the problem was a little flange referred to in step 9 was bearing down on that top-most gear that kind of little one. It didn't seem to be bearing down hard, I don't really see how it froze it up so solid. But I washed that flange down flat on the inside and I'll start trying to put it back together. It's surprising, I think I haven't lost a screw yet.

CC We copy. Thank you.

SC Okay, Houston. How's the EBRM 15 look to you?

CC Stand by half, Pete.

CC Pete we see no SAS or charge current. Go ahead and complete the five cycles however, Pete.

SC Okay, going into the five cycles.

SC Houston, you care if I have another short word on S019?

SL-11 MC-337/2

Time: 09:58 CDT, 7:14:58 GET

5/31/73

CC

Sorry Paul. What about the cover?

SC

Can I tell you one more short word? I think that maybe when I was binding up with that outmost little gear in that outside train there, there's a collar underneath it which is held in place with a Phillips screw. Now I think that that little metal fairing, or whatever it is, that goes on the inside of that cavity was bent in such that the Phillips screw head which projects out beyond the edge of the gear itself was wedged solid right up against that metal plate.

CC

Yeah, we copy, Paul.

SC

Looks like no joy on EPRM 15.

CC

We copy, Pete. And we agree.

SC

Say how's the RBM 3 now?

CC

Stand by half.

CC

Pete the REG is still off on that because we plan to do some more troubleshooting on it.

SC

Roger.

CC

We're going to LOS here in about 20 seconds. We'll have you again in about 3 minutes.

END OF TAPE

SL-II MC338/1

Time: 10:07 CDT, 7:15:07 GET
5/31/73

CC Skylab, Houston. AOS for 8 minutes.
SC Roger, Houston. Give my congratulations
to whoever wrote those SO19 procedures, will you please?
They were clear, explicit, and easy to follow.

CC Will do.
SC Hey, just for my information, how about
when you find out, Bill, let me know who gets that well done.
Will you please?

CC Copy.
CC Skylab, Houston. Be advised that we are
going to dump the recorder over Canary at 15:19.

SC We're advised.
CC Skylab, LOS in one minute. We'll have you
at Canary at 15:19.

SC Roger, Houston. The SPT, for your good time-
lining information, has just now completed the M172 CAL. And
it's about an hour and 15 minutes behind.

CC We copy, Pete.

CC If you read us, we didn't copy that.

END OF TAPE

SL-II MC-339/1

Time: 10:19 CDT, 7:15:19 GET

5/31/73

PAO This is Skylab Control. We have a brief gap here between LOS stateside and Canary acquisition. A few seconds from now, we'll leave the line up. Paul Weitz has successfully repaired the S019 UV, ultraviolet stellar astronomy instrument. Commented that he doesn't believe he's lost a single screw. He congratulated the ground for writing very clear and concise malfunction procedures, which were teleprinted up to the space station for his use in troubleshooting, dismantling, finding the nature of the hangup in the gear mechanism that moves the articulated mirror. And now he's in the process of reassembling the instrument. Science Pilot, Joe Kerwin, toward the end of the stateside pass, mentioned that he had just completed the M172 calibration. We're LOS at Canaries. We'll stay up through Canaries and Ascension.

SC (Garble) Somebody, namely me, inadvertantly pushed the transmit button. Houston, forget it.

CC Copy.

SC Okay. And let me say about the M172 CAL. It's obvious how long it took. I hope we don't have to do it again for 3 weeks or so. I used a lot of gray tape which I'll be returning to you so you can weigh it, cause it's in many small pieces. And with the aid of the gray tape, I hope to secure the batteries in the T003 and the food tray lifts, (garble) which rattle a lot. And the whole thing still shakes and rattles a little bit at the high weights. But most of the data points look good.

CC Okay, Joe. Appreciate that. Joe, is there any possibility that you could, as time allows, weigh that gray tape on the M074 on the SMMD and send that down? That would allow us to start getting you some 172 data back up.

SC Well, Bill, I don't know. They're awfully small pieces. That's why I proposed taking them home. Also I'm on an hour and a half down on the time line right now. I just don't know when I'll get to it.

CC We copy that, Joe. If it were possible to, weigh any of the items, or either get an estimate of what they might weigh. Because there's a good bit of pressure to try to get a 172 CAL down here.

SC Houston, I haven't really looked at my schedule lately. I assume that when I've done reassembling S019, you want me to go ahead and reinstall it in the airlock, right?

CC Paul, we'd like for you to do that in the - at approximately 17:50, when you're doing the water maintenance.

SC Okay. Is that on my Flight Plan?

CC That's affirm.

SL-11 MC-339/2

Time: 10:19 CDT, 7:15:19 GET
5/31/73

SC Oh, okay. I hadn't read that far ahead.
I'm still trying to catch up. Sorry.

CC Copy.

SC Houston, CDR. The S009 was initiated at
15:22:03.

CC We copy.

SC Hi there, Houston; Skylab. Are you still
there?

CC We're still here. GO.

SC Okay. The maximum readings, they - they -
Two extremes on the tilt arm now are 358.3 and 33.7.

CC Copy.

SC Just as I was putting in the last (garble)
with this little ring under it, patting myself on the back
for not losing a single one of those, I slipped off, and I'm
missing a screw and a spring now. But I'll think they'll
eventually show up on that great collector in the dome, our
point of entering screen.

CC (Laughter). We copy, Paul.

CC CDR, Houston.

CC Skylab, LOS in 1 minute. Carnarvon at
16:02.

PAO Skylab Control. Loss of signal through
the Ascension Tracking Station. 24 minutes to Carnarvon,
Australia. Skylab crewman, Paul Weitz, has successfully
repaired the S019, ultraviolet stellar astronomy instrument.
And reinstallation of that instrument in the scientific
airlock will take place at around 18:00 Greenwich mean time,
about 3 hours from now. Presently, the Science Pilot and
Pilot are scheduled for a run of the M131, Human Vestibular
Function Experiment, where one serves as the subject, while the
other observes, and then they flip flop. Then following that,
both of them go into a meal period, around 16:30, about an hour
from now. Regulator battery modules 3 and 15 are still off
line at this time, 15 having been off since early in the mission.
Three has not come back on line since the drop-out yesterday,
following the EREP pass. Science Pilot, Joe Kerwin, in the
last hour has completed calibration of the M172 experiment,
body mass measuring device. 23 minutes now to acquisition at
Carnarvon, Australia, Tracking Station. At 15:38 Greenwich
mean time, Skylab Control.

END OF TAPE

SL-11 MC340/1

Time: 11:00 CDT, 7:16:00 GET
5/31/73

PAO This is Skylab Control; 16:01 Greenwich mean time, about a minute - slightly over a minute to acquisition to the Carnarvon, Australia, tracking station. Very brief low elevation angle pass at Carnarvon, crossing on over into overlapping Honeysuckle coverage. Average temperatures today in the Skylab workshop have been running around 82 degrees Fahrenheit. Currently the space station is in an orbit measuring 232.7 nautical miles at perigee, at 240.6 nautical at apogee. Period of orbit; 1 hour 33 minutes 18 seconds. Should be getting a call to the crew now from Spacecraft Communicator Bill Thornton. Skylab Control standing by.

CC Skylab, Houston. AOS here for about 10 minutes with a keyhole.

SC You called, Houston.

CC Go Skylab.

SC I said did you call, Houston?

CC Just called an AOS and CDR on the timer go ahead and use the event timer as you suggested.

SC Okay, thank you.

CC CDR, Houston.

SC Go ahead, Houston.

CC Pete, your cue card was correct. You leave it in SOLAR INERTIAL and we'll command it if we go into unattended OPS and we accept responsibility for that one.

SC Okay, Houston. Poger. Listen when I have time and I don't right now because we're GARBLE power curve, can I sometime on B channel - I'm going to send down to the flight director why it is we run into these problems when you schedule the way we do. I'm not sure you really understand what our problem is.

CC Yeah, Pete. We copy that. We'd be interested in hearing the comments and -

CC Easily - and I'm going to try to explain by using today as a good example of how not to schedule. Okay. We copy.

SC And I think I can do it in a constructive manner that will make more sense than us getting snapping which we don't mean to do but we just get our hands so full. And it's always the times when we get them the fullest that you call. So let me send that down tonight on B channel - get a little understanding of what some of the problems are. And the other guys are doing M131 right now. (Garble) through lunch so I can get back to the ATM on time. They're down some and I'm holding my own but just barely.

CC CDR we copied your last transmission before the keyhole. We'll be interested in hearing what you have to say and we also hang our heads for the day.

SI-II MC340/2

Time: 11:00 CDT, 7:16:00 GET
5/31/73

CC Skylab, we'll be LOS in about 30 seconds.
We'll have you down in Hawaii at 16:25.

PAO This is Skylab Control. Loss of signal through the Honeysuckle tracking station. Twelve minutes to acquisition in Hawaii. During that pass there was some exchange between Spacecraft Communicator, Bill Thornton and Skylab Commander Pete Conrad on how crew activities have been scheduled. And Pete said that he would put his comments on how he thought the scheduling could be better handled on channel B tape recorder which will be dumped during the evening. Said they were constructive comments. He had complained earlier that frequently because of the density of the flight plan uplinked on the teleprinter that frequently the crewmen had several items in their hands they were trying to move from one place to another and they would get behind the time line and the ground would call them in to perform some other task. Ten minutes to Hawaii. The central 10 by 20 foot scribbling plot board in the control room seems to be on the fritz. The spacecraft position indicator which is projected rear screen tends to jump all over the world tracking chart. Maintenance people are running tests on it at this time trying to remove the hangup. Back in 9 minutes with the Hawaii pass. At 16:15 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-341/1

Time: 11:23 CDT, 7:16:23 GET

5/31/73

PAO This is Skylab Control; 16:23 Greenwich mean time. About a minute out of Hawaii. Short gap across into the States. We'll leave the circuit up for both Hawaii and Stateside. Standing by at 16:24, Skylab Control.

CC Skylab, Houston. AOS for 9 minutes.

SC Roger.

CC Skylab, we'll be LOS in about 45 seconds.

Goldstone at 16:37.

SC Roger.

PAO This is Skylab Control; LOS Hawaii.

As the space station went over the hill from that tracking station, we're 2 minutes and a half away from acquisition at Goldstone, for a fairly solid stateside pass. Coming up shortly in the Houston News Center - a play back, starting at 12:00 noon central daylight time, of onboard television, lasting 28 minutes, reaching back to activation of the space station over the past several days. And then following at 1:00 p.m., central daylight time, is a play back of ATM television from earlier this morning. Science Pilot Joe Kerwin and Pilot Paul Weitz scheduled for an eat period at this time. Immediately after the vestibular function experiment, which I guess is preferable to doing that after eating. At 16:36 standing by for stateside acquisition at Goldstone; Skylab Control.

END OF TAPE

SL-II MC342/1

Time: 11:36 CDT, 7:16:36 GET
5/31/73

CC Skylab, Houston. AOS for 4 minutes.
SC Roger.
CC Skylab, you'll be LOS in a minute for
approximately 5 minutes.
SC Hello, Houston. You there?
CC Go ahead Skylab.
SC This is the PLT. What am I missing and
not understanding. I don't see anywhere where it tells me
to install S019 in the airlock.
CC That's right, Paul. We wanted you to do
that in the water service period this afternoon.
SC Oh, I thought you were saying that part
was all ready indicated in the flight plan.
CC Negative. We wanted you to do that dur-
ing that period.
SC Okay. I thought I didn't understand
something. Good enough. Thank you. Did you find out who
wrote those procedures, yet?
CC Yeah, stand by.
SC Hey, and you'll be glad to know I found
the spring. I'm now waiting until the screw loses sufficient
energy such as the airflow suck it on up against the intake
screen.
CC We copy that and listen the people -
there were several people who worked on that procedure.
For example, there was Fernando Ramos, Karl Henize. There
was Fred Otallahan and Chuck Ruby all worked on that one, and
we passed your thanks along.
SC Okay, thank you, Bill.
CC Skylab, Houston. AOS for approximatel;
11 minutes.
SC Roger.

END OF TAPE

SI-II MC-343/1

Time: 11:48 CDT, 7:16:48 GET
5/31/73

CC Skylab, Houston. The tape recorder will
be dumped over Ascension at 17:03.

SC Roger.

CC Skylab to be LOS in about 30 seconds, we'll
have you at Ascension at 17:03.

SC Roger.

PAO This is Skylab Control. LOS Bermuda.

Completion of stateside pass at the end of revolution number
245. Space station now at the start of revolution 246. About
5 minutes away from Ascension Island Tracking Station. Repeat
of the earlier advisory to the Houston News Center: In about
2 minutes, a playback of video tape recordings of earlier TV
scenes taken aboard Skylab of activation. Followed at 1:00 p.m.
by today's Apollo telescope mount television at the AIM
console, as well as solar images through the instruments.
At 16:59, back in 4 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-34A/1

Time: 12:02 CDT, 7:02:50 GET
5/31/73

PAO This is Skylab Control; 17:02 Greenwich mean time. Less than a minute now from acquisition at Ascension Island Tracking Station. Revolution 246. Ten minutes across Ascension, in this particular pass. Standing by for air-ground resumption of communications. However, two of the crewmen are scheduled for meal period at this time. It isn't likely there will be a great deal of conversation. Standing by for Ascension.

CC Skylab, Houston. AOS for 10 minutes.

SC Roger.

CC Skylab, we'll be LOS in a minute.

Carnarvon at 17:36.

SC Roger.

PAO This is Skylab Control. LOS Ascension. Skylab space station presently off the western coast of the tip of south Africa. About 1/4 of the way through revolution number 246. Average temperatures today in the workshop running around 82 degrees Fahrenheit. Science Pilot Kerwin and Pilot Paul Weitz still apparently in the midst of noon meal. Very little conversation during the last three passes - Hawaii, Stateside, and Ascension Island. Later in the day, another ATM run is scheduled, and the now-repaired S019 ultraviolet stellar astronomy instrument will be activated. After his noon meal, Pilot Paul Weitz will reinstall this instrument in the scientific airlock and continue with the run as scheduled, at around 20:30 Greenwich mean time. Carnarvon in 19 minutes. At 17:17; Skylab Control.

END OF TAPE

SL-II MC345/1

Time: 12:35 CDT, 7:17:35 GET
5/31/73

PAO This is Skylab Control; 17:35 Greenwich mean time. Less than a minute out from Carnarvon with a brief gap after Carnarvon over into Guam. To summarize briefly the current status of Skylab electrical power availability. Sixteen of the 18 charger battery regulator modules or CBRM's as they're referred to in shorthand are on line. Number 15 had failed shortly after launch. Number 3 went off line along with three others yesterday after the EREP pass and failed to come back on line. Troubleshooting is continuing and will continue tomorrow on ways of getting this CBRM back on line. At any rate the -

CC - For 10 minutes.

SC Roger.

PAO - At any rate the power available is certainly adequate for remainder of today's flight plan and definitely adequate for the crew rest period scheduled all day tomorrow. There is a possibility of a earth resources pass for day after tomorrow - Saturday. This is a possible pass right now. It's not definitely in the flight plan but it's being looked at closely. It would be a rather brief data take pass compared to yesterday's EREP survey. The main power drain comes in switching from solar inertial attitude to Z-local-vertical or Earth looking and back again. And it was this period of time yesterday after ERFP pass number 1 that the CBRM's dropped off the line because of low voltage sensing. Right now the average battery state of charge for the entire cluster - that is the ATM batteries, 86.1 percent of capacity. Standing by for the remainder of the Carnarvon pass, jumping over to Guam. Space station crossing the southwestern coast of Australia about Perth. Spacecraft Communicator Bill Thornton has given an ADS call to the crew who responded but said nothing further. Skylab Control standing by.

CC What's that requiem for flight control?

SC Say again.

SC That's PJ's bagpipes.

CC Thought that was requiem for flight control.

SC No we give you a little bit of selected pieces every now and then.

CC We appreciate it.

SC That's the tempo for the CDR to do M4871A - whatever he's got.

CC You need another music for that one.

SC Houston, SPT.

CC Go, SPT.

SC Got a stupid question here. I have a feeling I ought to all ready know the answer to this but

SL-II MC345/2

Time: 12:35 CDT, 7:17:35 CET

5/31/73

I'm about to do the second Sunside pass out of JOP 23 and I want to verify that the X-ray experiments do not want to repeat our next orbit. That I should not run 56 and 54?

CC Stand by half, Joe. Joe repeat both experiments. Repeat both experiments.

SC Okay we'll run the whole building block over again.

CC That's affirm.

PAO This is Skylab Control bridging a gap here between Carnarvon and Guam about 2 minutes wide. There was some sort of "space first" there with - we've heard all kinds of music, country western, classic, military on earlier missions being broadcast down from spacecraft but this was probably the first bagpipe music. One minute and a half to Guam. 17:49 Zulu. Skylab Control standing by.

END OF TAPE

SI-II MC-346/1

Time: 12:50 CDT, 07:17:50 GET

5/31/73

CC Skylab, Houston. AOS for 9 minutes.
PAO Skylab will be LOS in about 45 seconds.
We'll see you at Goldstone at 18:15.
SC Roger.
PAO This is Skylab Control; 18:01 Greenwich
mean time. Acquisition at Goldstone in 14 minutes. We'll
bring up the circuit at that time. 18:01 Zulu. Skylab
Control out.

END OF TAPE

SL-II MC-347/1

Time: 13:15 CDT, 7:18:15 GET

5/31/73

PAO This is Skylab Control; 18:15 Greenwich mean time, less than an a minute from acquisition with Goldstone Tracking Station. Stateside pass sweeping down from the Puget Sound Area, coming out in the Georgia coast. Standing by for air to ground.

CC Skylab, Houston. AOS.

SC Roger, Houston. Got a question for you. Are you going to get a S019 pad up for me. I don't have one yet for the 21, 28, or whatever it is operations that are scheduled.

CC Pete, that's on its way. It'll be up this site.

SC Okay. Can you tell us. Is the prism in or out?

CC Prism is in, Pete.

SC Roger.

SC Houston, CDR.

CC Go, CDR.

SC Okay. We'll get these water tank cap measurements for you, reference your message of 7:00. The answer to question 2, was the waste management, compartment FMMB electronic module change. The answer is no, nobody told us to. Three - -

SC Told us not to.

SC Oh, you told us not to, I'm sorry. Three, please provide lag and (garble) for pilot, M092, day 148. Question 4, same thing for day 149 for the CDR and my question is, what happened to the data? Did you not get B channel because I know it was put on.

CC Stand by half a minute on that last one, Pete.

SC Okay. Well, we'll sort it out for you, but we're not writing that stuff down, as you well know. And it does go on B Channel and maybe we (garble) or something, but we'll dig that up for you.

CC Pete, we probably have a later word on you on that last question.

SC Okay. Question number 6. Did the power systems alert light ever go out subsequent to data cycling CBRS 4, 6, 7, 8, 11, 12 and 17? As far as I know the power system alert light has been on ever since we've been in the vehicle.

CC Copy.

SC And I'm in route to do number 7 right now.

CC Copy.

SC Houston, SPT.

CC Go, SPT.

SC Bill, the first thing I asked them, when the SMMD went on the fritz, was - is there a spare. They said no.

SL-11 MC-347/2

Time: 13:15 CDT, 7:18:15 GET
5/31/73

CC Yeah. What happened there, was, we intended to give the option of either changing out the electronics and putting it in the head or else doing the fecal measurements in the wardroom. And possibly we weren't specific enough.

SC Well, we'd, We'd be inclined to take the feces into the wardroom and that makes it something between you and Dr. (garble). Which instrument you'd rather have up, just let us know.

CC Okay. We understand the status now. And we'll get you an answer on it.

SC Okay.

SC Say, Houston. The PLT figured out your - I won't use his exact words - but he said he gathers that you're working your way around to the fact that we're either going to weigh food in the head, or waste material in the wardroom.

CC All right, I think I can supply the missing words Pete.

SC And the secondary coolant loop and 21 circuit breaker is reset and it's set, I mean it just low again.

CC We copy.

SC And the other thing is on question 1, which says water tank cap measurements performed during pre-housekeeping. Where you write rate those housekeeping (garble) you can now consider those no longer a pre-housekeeping there. The only place that we get a chance to catch up from where we're behind and that's one of the reasons things snowball on us in the evening, because it's not working the way it's suppose to. We're using those housekeeping packages to catch up.

CC Pete, we surmized that that was happening. And understand. Do the temps whenever you can.

SC Okay. I just wanted to explain that to you and the other thing is that one of these days one of these pieces of gear is going to work right the first time we take it out. And unfortunately up to this point, it hasn't. And my latest one that I just spent a little time on although I don't work the big deal was the 4871-A. Because I was going to try and get ahead and do that first before I did my PT. And it did not calibrate correctly. You can tell them that cassette minus .9DB, I had to use full adjustment. And it is now against the stop, but it just barely made .9, it's closer to minus .7DB. Now, I was in the process of making my first measurement and I noticed, I - I guess this thing doesn't. There's a measure under 60DB, and I checked that at the register in the wardroom. The vehicle is pretty

SL-II MC-347/3

Time: 13:15 CDT, 7:18:15 GET

5/31/73

quite, but I - don't quote me on that one. I was just starting to do it when you all called.

CC Okay, Pete,. We copy.

SC Hey, Bill. Where are we?

CC Oh, sorry. Over Goldstone.

SC No, I mean what part of the country are

we over right now?

CC You should be just north of Puget Sound now, above Oregon, coming across the border, or flying along the border.

SC Oh, okay, I got it. We're just east, ending south of the Great Lakes. All right.

SC We just - We keep the MDA windows closed. And unless you're in the wardroom you might as well be in the Yellow Submarine, as far as figuring out where we are.

CC (Laughter) Copy.

END OF TAPE

SL-II MC348/1

Time: 13:24 CDT, 7:18:24 GET

5/31/73

CC CDR, on question 3 and 4. That requirements gone away. We've found the material.

SC Very good. Hey, Bill, I have something else.

CC Go.

SC We recovered the spring for that S01? knob but the bolt or screw hasn't showed up yet. Could somebody do a little research. If three is fine we'll just go ahead. If they'd rather have 4 somebody's going to have to find a substitute some place in the workshop.

CC Okay, we copy that, Paul.

SC There's a screw loose in the forward compartment.

CC PLT, Houston.

SC Go ahead.

CC Don't worry about either the spring or that missing screw. You're in good shape without them.

SC Okay, thank you.

SC Hey, Bill also I'm scheduled for a CO2. Did you want to do that in view of - what was that in the instrument - or are you going to have some procedures up to troubleshoot it?

CC Stand by, here.

CC Pete, prior to the CO2 measurement we'll get you some words up on that. There may be some changes.

SC Yeah, Paul tells me that he put that information on B channel. We had some problems with it this morning so if you haven't gotten -

CC We've got it. We'll reach a decision on that.

SC Okay.

SC Well I'll tell you I've spent a lot of time in space before at 150 nautical miles - but this 237 is just unbelievable over the United States. We just came across GARBLE. You can see all the way to the tip of Florida. You can see the whole Bahama chain and you can see all the shallow water and all the deep water all in one big picture. It's really fantastic. Tomorrow on our day off, we get the camera squared away well I hope we can get some good GARBLE shots of this because they are pictures like I know we would never see that much in one picture before.

CC By the way did you get the Hasselblad squared away, Pete, or do you need any further help on that?

SC No, we haven't had a chance to do that yet, Bill. We'll work it tonight or we'll get it tomorrow - one of the two.

CC Okay, and we'll be looking forward to pictures from it.

SL-II MC348/2

Time: 13:24 CDT, 7:18:24 GET
5/31/73

CC You have that one front that's sitting up
there by Indianapolis. If it dissipates, we ought to be able
to get some great pictures tomorrow in our stateside pass.

CC We copy that. Thank you.

CC Skylab, LOS and we'll see you in approxi-
mately 40 minutes at Carnarvon.

SC Roger.

PAO This is Skylab Control; loss of signal
from Bermuda. Skylab space station will graze past the north-
east coast of the south African - south American continent.
Now starting revolution 247; 38 minutes to Carnarvon tracking
station. And at 18:36 Greenwich mean time, Skylab Control.

END OF TAPE

SL-11 MC-349/1

Time: 14:13 CDT, 07:19:13 GET
5/31/73

PAO This is Skylab Control; 19:13 Greenwich mean time. On 40 seconds from acquisition at Carnarvon, with a brief gap over to Guam. Final passes over these stations for several hours until the descending node moves westward. Starts back down through that part of the range. At this time, the science pilot and pilot are scheduled to be alternating as subject and observer on the M131 vestib - human vestibular function experiment, while Commander Pete Conrad is running the second ATM - I beg your pardon, the third ATM run of the day. Standing by for acquisition at Carnarvon and resumption of communications between the crew and CAP COM here in Mission Control.

CC Skylab, Houston. AOS - nine minutes.

SC Roger, Houston. And I got a few words with you about the sound meter.

CC Go, Pete.

SC Okay, we're going to the Sun on this pickup here. I've gotten it on the wrong scale. And I have it adjusted correctly now, and it's taking readings. I get like 22dB for ambient noise level. Does that make sense?

CC (Garble) if it's very quiet, it does.

22dB is pretty quiet, but, yes, that's not unreasonable.

SC Okay, well I have to take it on mostly down in the - I've got most of the OWS. I haven't come up with the MDA yet. I was curious to - I thought that was kind of low myself.

CC Yes, 22 is very quiet, but that's like being in the middle of the desert.

SC Yes, well some of the filtered stuff - it's a different frequency rate. Gets up around 28-1/2. So maybe it's okay.

CC Goodo, Pete.

SC You can chalk up one on me for that CAL. I just read the checklist; so I did it on the wrong scale.

END OF TAPE

SL-II MC350/1

Time: 14:21 CDT, 7:19:26 GET
5/31/73

CC Skylab, Houston. AOS 6 minutes.

SC Roger, Houston.

CC Pete, this is just for information only.

On the S052 OPERATE light anomaly, they think this may have something to do or be in some way related to a discrepancy that they note between the number of frame counts that you are getting and the number that ground's getting. Ground is showing 302 more frames used than you have shown, and as you're aware, the S052 takes 12 frames during a standard patrol.

SC Okay, understand. (static) (Garble)

coming on and we'll take a couple of more frames (garble).

CC Pete, you're unreadable on that one.

SC (Static)

END OF TAPE

SL-II MC351/1

Time: 14:32 CDT, 7:19:32 GET
5/31/73

CC Skylab, we'll be LOS in about 30 seconds.
We'll see you at Goldstone at 19:52.

SC Okay.

PAO This is Skylab Control; 19:36 Greenwich mean time. Sixteen minutes from acquisition through Goldstone Tracking Station. And the stateside pass, sweeping down through the central part of the country from the Oregon coast, coming out around Corpus Christi, Texas. Across the Yucatan Peninsula and the Isthmus of Panama through central portion of South America. On the end of revolution 247 and beginning of revolution 248. The last two passes over Carnarvon and Guam. The last two station passes have been rather quiet, in as much as the crew is apparently wrapped up in conducting experiments scheduled in the Flight Plan at this time. Back in 15 minutes for the stateside pass at 19:37 Greenwich mean time; Skylab Control.

END OF TAPE

SL-11 MC-352/1

Time: 14:50 CDT, 7:19:50 GET
5/31/73

PAO This is Skylab Control at 19 hours and 51 minutes GMT. Skylab space station is coming over, in contact with the Goldstone Tracking Station, on a lengthy stateside pass, which should last approximately 19 minutes. Science Pilot, Dr. Joseph Kerwin, is currently performing the human vestibular function test, which is designed to determine changes in the semicircular canal sensitivity. Dr. Kerwin is wearing test goggles as he rides a rotating litter chair aboard the spacecraft. This particular phase of the test will be performed six times on each crewmember during the mission. Meanwhile, Commander Conrad is still working on the C&D panel at the ATM console. We'll pick up communications between CAP COM, Dr. Bill Thornton, and the Skylab space station.

CC
SC

Skylab, Houston; AOS.
Roger, Houston.

END OF TAPE

SL-1 MC353/1

Time: 14:59 CDT, 7:19:59 GET
5/31/73

CC Skylab, Houston. We'll be dumping the
tape recorder over Vanguard at 20:18.

CC Skylab, Houston. We'll be dumping the
tape recorder over Vanguard. That'll be at 20:18.

SC Roger, Houston.

SC Houston, CDR.

CC Go, CDR.

SC We're having a hard time finding any
(garble) to do. Actually they want me to work all night.
Sorry I couldn't (garble) up a little bit I guess - just
(garble) out.

CC Pete, I'm sorry. You weren't readable
on that one. Would you say again?

SC I was just saying that Joey (garble) that
this isn't a very active active - region, and I was having a
hard time getting anything out of it for him.

CC Okay. We copy that, Pete. It's a very
quiet Sun.

CC Skylab, LOS in 1 minute. We'll see
you at Vanguard at 20:18.

SC Roger.

PAO This is Skylab Control at 20 hours and
7 minutes GMT. Skylab space station, beginning its 248th
revolution, in LOS right now. The next station that we'll
pick up will be Vanguard, in approximately 10 minutes.

END OF TAPE

SL-11 MC 354/1

Time: 15:17 CD1, 07:20:17 GET
5/31/73

PAO This is Skylab Control at 20 hours and 17 minutes GMT. Skylab station will come into contact with the Vanguard tracking station and we'll pick up the air to ground as that occurs.

CL Skylab, Houston. AOS for 8 minutes.
CC Skylab, LCS in one minute. Goldstone
AOS 21:29.

SC Roger, Houston.
PAO Skylab Control at 20 hours, 27 minutes GMT. As the Skylab station loses contact with the Vanguard tracking ship, we will have an LOS for more than one hour and three minutes as the Skylab station crosses out over the South Atlantic, below South Africa. Flies up the Pacific over the Indo-China area. Over Japan. Next contact will be with the Goldstone tracking station one hour and 3 minutes from now. The last report from the crew is that the Science Pilot, Dr. Joseph Kerwin, was still performing the M131 experiment. Next items on the flight plan for later, is Pilot Paul Weitz performing the M092 lower body negative pressure device. Immediately followed by the 171 experiment, Metabolic Activity. This portion of the activity will be on film - on 16mm data acquisition camera. As part of the M151 time-in-motion study experiment. Again, next contact will be over Goldstone in approximately one hour. This is Skylab control at GMT - 20 hours and 28 minutes.

END OF TAPE

SL-II MC-355/1

Time: 16:27 CDT, 7:21:27 GET

5/31/73

PAO This is Skylab Control, at GMT 21 hours and 28 minutes. As the Skylab Space Station approaches the west coast off California, we will have AOS in approximately 1 minute. Pilot Paul Weitz should be either partially completed or partially into - excuse me, partially completed the M092 lower body negative pressure device. And he will follow this experiment by M171 and perform the metabolic activity experiment which is designed to measure his energy expenditure as he rides the onboard bicycle ergometer. We will pick up any air to ground as it arrives.

CC Skylab, Houston. AOS for 21 minutes.

SC Hello, Houston, Skylab. Say I've been wrestling with that down meter all the afternoon. And I finally got it to read right. It's reading around 15 dot decibels, but it doesn't work according to the checklist. And I guess my question is, is the check list wrong, or is there something wrong with the down meter?

CC Okay. Could you tell us what you had to do to make it work, Pete, quickly.

SC Okay. I don't have the checklist in front of me but, when you shut it off correctly, both the inner and outer black and clear dials are both clockwise. So, that the clear dial has 70 underneath it, to start with. And if it's reading minus DB's you use the clear dial going counter clockwise to lower DB settings. And if it's plus DB you run the black dial counter clockwise to get higher DB readings, so you can read it on the (garble) scale. So, when I do that, it started out that way. I need to take the clear dial and move it to lower DB, and low and behold I get all the way down to 20. That's when it starts to read. Except it reads 22 DB and you can light off a bomb up here and nothing will happen. Now, it says in the book, don't rotate both dials simultaneously. And I gather it also means that one should stay over against the stop one way while the other one is being adjusted. And if I mix them up, I can come up with 50, in the 50 DB range, and it reads fine. But it's not per checklist.

CC Okay. We copy that. And we're looking at it, now, Pete.

SC Thank you.

CC Pete, there are 2 messages for you, if you're free to copy them.

SC Ah, yes, sir.

CC Okay. The first one has to do with a revised star tracker pad for S-19 OPS. And the inner gimbal is minus 0142. Outer gimbal is plus 0422 and the valid time on this is 151:21 to 23:00.

SL-II MC-355/2

Time: 16:27 CDT, 7:21:27 GET

5/31/73

SC Okay. The (garble).
CC That is affirmative.
CC And did you get the S019 pad?
SC Yes we did. And are you going to command
the star tracker on.
CC Stand by.
CC Now, Pete. We could do it, but we were
going to leave that to you.
SC Okay. That's okay, fine. Very good.
Thank you.
CC Okay. The other thing is that we want the
S054 frames remaining counter to be reset after the 2107 pass.
SC Okay. What do you want it reset to?
CC Goes to zero.
SC Go to zero?
CC Stand by one, Pete.
CC That's full scale, 6000.
SC That's 6000?
CC Yeah, just select the reset and it's
suppose to go there.

END OF TAPE

SL-II MC356/1

Time: 16:36 CDT, 7:21:36 GET
5/31/73

SC Houston, CDR.
CC Go, CDR.
SC The - while we're up to stuff in side-
tracking this ENABLE, do I have to do any of that - GARBLE.
CC Pete, we show you're locked on a star
here.

SC Well, I know I've got it locked on but
is the update ENABLED and all that, or do I have to COMMAND
that also?

CC Stand by. You're all ready to go, Pete.
CC Skylab, you're going to be LOS in a
minute. Vanguard at 21:55 and Pete as we said you're all ready
ENABLED and ready to go.

SC Roger. GARBLE.

SC And I feel like Mr. Solar Physicist today
after all that time on the ATM panel.

PAO This is Skylab Control at 21 hours
44 minutes Gmt. We have just lost signal at Texas tracking
station. We will have AOS in about 12 minutes at the Vanguard
tracking station. We have some updated information from the
back room in the Skylab program management office which is
as follows. In spite of the continuing electrical power
shortage onboard the damaged Skylab vehicle a great deal of
productive science is being accomplished. Both attended and
unattended operations of the ATM were conducted. The first
two daylight cycles were not run because of electrical power
problems which necessitated turning off the pointing and
control system. Synoptic data of the Sun's center and
one active region were taken. Yesterday the first earth
resources pass was executed. This pass started with a data
take over the Oregon coast at 3:34 p.m. central daylight time.
Information from the EREP sensors was expected at the land
water interface at the Oregon coast but was obliterated by
the rapid movement of a frontal weather system. Improving
weather conditions were experienced over the desert basin
and range provinces of the southwestern United States. The
crew reported observing the Great Salt Lake desert as well
as the Texas coastal area southwest of Corpus Christi on
the Gulf of Mexico. The Skylab earth resources evaluation
team has performed a post-pass analysis of the operation of the
earth resources sensors using the Skylab voice recorded logs. These
logs contain crew comments of the onboard - orboard indications of
the operation of each sensor. Assessment of these indica-
tions by the evaluation team has indicated the multispectral
scanner and the two microwave sensors function normally.
Onboard indications showed a malfunction light in one of
the six cameras from the multispectral camera array. The

SL-II MC356/2

Time: 16:36 CDT, 7:21:36 GET
5/31/73

crew will be requested to examine the film cassette from the camera that gave the malfunction indication. The infrared spectrometer did not reach proper operating temperatures since it was designed for a 60 degree Fahrenheit wall temperature and the actual wall was 54 degrees Fahrenheit. However, desired data were still obtained for all of its sensing spectrum with the exception of the thermal data. Work-arounds to minimize the effects of a low wall temperature are in progress. On the corollary experiments this morning by partially disassembling the gear drive on the mirror system of the ultraviolet telescope, experiment S019, the Skylab crew repaired the problem that was found yesterday. A piece of metal was found to be forced against one of the gears, jamming the mirror drive system. Analysis and repair of the instrument required 2 and three half hours and was performed yesterday and today during periods when the S019 instrument had earlier been scheduled for observations. An observing run with the repaired instrument is now scheduled for this afternoon - was performed this afternoon at approximately 17:00 hours central daylight time. As of this afternoon, medical experiments onboard Skylab are on schedule. And principal investigators are now analyzing the data as it becomes available. During the previous four days of the medical experimentation Pilot Paul Weitz has conducted the M092 and 171 experiment. On the fourth day of the mission, Commander Pete Conrad completed M092, and 171 on the fifth day of the mission, and Science Pilot Dr. Joseph Kerwin also completed M092 and 171 experiment. On the sixth day of the mission Science Pilot Joseph Kerwin donned the sleep cap experiment M133 and this was conducted successfully. Pilot Paul Weitz on that same day, M131 vestibular function was performed. Today Science Pilot Joseph Kerwin conducted again the 131 experiment vestibular function and is also scheduled this evening to wear the sleep cap, the M133 experiment. Also on the 7th day today Pilot Paul Weitz completed the M131 vestibular function test and also the M092 171 experiment. This concludes the latest information from the Skylab program management office. We will take the line down now and have AOS at Vanguard tracking station in approximately 6 minutes. This is Skylab Control at 21 hours 50 minutes Gmt.

END OF TAPE

SL-II MC-357/1

Time: 16:55 CDT, 07:21:55 GET

5/31/73

PAO This is Skylab Control at GMT 21 hours and 55 minutes. We should be getting acquisition at the Vanguard tracking station with the Skylab space station in about 30 seconds. We'll take up the line and listen as Dr. Bill Thornton, serving as CAPCOM today, will touch base with the crew.

CC Skylab, Houston. AOS for 7 minutes.

CC Skylab, Houston. LOS and 30 seconds.

Hawaii at 23:04.

SC Roger, and he advised S019 is right on the money. And it's in operation.

CC We copy, Pete.

PAO This is Skylab Control at 22 hours 4 minutes GMT. The only transmission on the previous pass, as you heard, was Commander Peter Conrad informing CAPCOM, Dr. Bill Thornton, that S019 was right on the money and in operation. To recap the electrical power problem, as it exists at this time, this is our present situation. Two of the 18 CBRM's, the charger battery regulator modules, are off line. As a result, the crew was advised earlier to curtail certain activities, which included the canceling of the scheduled EREP pass today and several TV items. Also, the water heater and the personal hygiene area was advised to be turned off. The crew has been advised to begin switching the cycling switch on CBRM number 5, during daylight passes. On CBRM number 3, the problem currently exists between the - the solar panels and the regulator. The CBRM is - energy is getting from the solar panels to the regulator. But we can't bring it on line at this time. On number 15, apparently there was a switch open. Again, solar - the solar array, between the solar array and the regulator. The ground is looking at this and will study it further. And at this time, we have 58 minutes to the next pass at Goldstone. This is Skylab Control at 22 hours 6 minutes, GMT.

END OF TAPE

SL-11 MC-359/1

Time: 18:15 CDT, 7:23:15 GET
5/31/73

PAO This is Skylab Control at 23 hours
and 15 minutes GMT. To correct an earlier announcement -
The activities scheduled for tomorrow, which is being considered
tonight, is placing the television camera - onboard television
camera - at the airlock-module hatch window to possibly take
pictures of the partially deployed solar panel on the orbital
workshop. However, at this point, procedures have not been
worked out, and these details will be worked out tonight and
passed up to the crew if this operation is feasible. However,
as we said, the procedures have not been finalized, and the
final decision on this will be reached later on. This is
Skylab Control at 23 hours 16 minutes GMT.

END OF TAPE

SL-11 MC358/1

Time: 18:03 CDT, 7:23:03 GMT
5/31/73

PAO This is Skylab Control at Gmt 23:03 minutes, we'll pick up the conversation over Hawaii.

CC The procedure is then worked up for looking via TV out the airlock at the SAS wing and the value of this is currently being determined at test here. How would you feel like doing about 3 hours of this on your day off tomorrow?

CDR Yeah, I guess we ought to. Sounds good.

CC Okay, we're going to hold the flight plan under these circumstances and we'll get the flight plan up later. Also, we - on the panel 203, the MDA FAN CSM switch to OFF. However, before entering the CSM turn this fan back ON.

C DR Okay, we understand.

CC Okay. On the VTR for today at 152:00, turn the VTR MAIN POWER SWITCH ON. CAP COM will cue you on this one. We will disable then after the last ATM pass.

CDR Say again the times, Joe, I came up garbled.

CC Okay. That time is 152:00:40 and the CAPCOM will cue you.

CDR Okay. That's for VTR power. We got it.

CC Rog. And the ground will position the recorder to the proper location of the tape. We haven't dumped any data today and we'll accomplish this tomorrow.

CDR Okay. What else you got?

CC Okay. We've got one on the CO2 here. The little (GARBLE) CO2 to monitor and this is reference CO2-1 24:15 today. Select system B. Also change the procedure during temperature measurements to pump during the temperature until the temperature stabilizes or for a maximum of two minutes. Now if the CO2 readings are not considered adequate on this attempted usage then we will terminate the experiment - terminate the experiment.

CDR Okay. Was this the B that we used this morning because it was system A that had all the goofy stuff coming out of it. Do you still want to go ahead with B - as I understand it. We'll give her a whirl.

CC That's affirmative, Pete. Also we want you to run a primary Sun-sensor checkout of the last ATM Sunpass of the day. This is for the PLT. And the procedure on this is to select the primary fine sun sensor, drive the wedges in a direction opposite to the displayed values. And CDR do this after the data take is over.

CDR Roger.

CDR Okay, you still there, Bill?

CC That's affirm.

SL-II MC358/2

Time: 18:03 CDT, 7:23:03 GMT
5/31/73

CDR Okay, standing by to switch these off.
CDR Also be advised momentum is ENABLED. I
ENABLED it early.
CC We copied both of those, Pete.
CDR CDR we're going to be LOS in about
one minute. We'll have you at Vanguard at 01:10 and that'll
be the medical report.
CDR You're going to have us between 23:00
and 01:10 is that right?
CC Stand by.
CC That's incorrect, Pete. I gave you the
wrong one. That's 23:31. That should have been 23:31.
SC Okay, 23:31 and we'll stand by. (garble) house-
keeping (GARBLE).
CC Copy, Pete.
PAO This is Skylab Control at 23 hours and
11 minutes Gmt. We just heard the Skylab crew Commander Pete
Conrad discussing with CAP COM Dr. Bill Thornton the possibility
tomorrow on their day off of setting up the TV camera to
shoot out the hatch window, the airlock module hatch window,
to try to get pictures of the parasol Sunshield which was
deployed the second day of the Skylab II mission. It is esti-
mated this operation will take approximately 3 hours of crew
time tomorrow and as earlier reported tomorrow the 152 day
of the year will be the scheduled crew day off. There will
be a change of shift conference, Change of Shift Briefing at
the Building 1 newsroom at approximately 7 p.m. central day-
light time with Flight Director Don Puddy. This is Skylab
Control, 23 hours and 12 minutes Gmt.

END OF TAPE

SL-11 MC 360/1

Time: 18:29: CDT, 07:23:29 CET
5/31/73

PAG This is skylab, Control at 23 hours, 29 minutes, GMT. Skylab space station will be coming in acquisition with the Vanguard tracking station momentarily. We will leave the lineup for any air to ground that may commence.

CC Skylab, Houston. We're AOS in Hawaii - excuse me, in Vanguard. We got you for 9 minutes.

SC Good.

CC And be advised last pass that we forgot to - we're going to be dumping tape recording here. And I see that we got clipper out.

CDR No, we haven't gotten it yet. But we're close. Go ahead.

CC Okay. Pete, we're prepared to do this housekeeping 60 gulf. However, if - we'll be glad to reschedule it later if you guys are not prepared to support it.

CDR We're prepared. We were waiting for you last pass.

CC Roger, I know. Stand by.

CC Skylab, Houston. We're starting the (garble) for the procedure.

CDR Okay, Houston. It all worked. You can go ahead and send two.

CC Roger. We will. Stand by.

CC MARK. It's up there now.

CDR Okay. We got it on 2. All fine, boxes are working.

CC Very good. Thank you.

CDR And Dick, some time later tonight, we're going to - we're working up all these little things that caused us to get behind, and why. And we'll have them all on B channel for you, for the Flight Director and the FAL to look at, okay? And I want to make sure they get that stuff tonight when it comes down. Probably two or three more hours before we get it on there.

CC Roger, Pete. We certainly will and it might help us to let us know - when you - approximately when you are going to put it on the B channel little bit later on, we'll be sure and find it and we'll see that it gets passed around. And also, if there are any items that you would care to this evening summarize for us on air to ground, we'll be glad to. Otherwise we'll be waiting for channel B.

CDR Well, I can summarize my problems today, because I just took the last (garble) you're suppose to 60 gulf. And cut down, I wrote them out, just a second.

SL-11 MCX 360/2

Time: 18:29 CDT, 07:23:29 CET

5/31/73

CC Roger. We're standing by and still got about 6 more minutes this pass. While you're looking for that, I ave - I have one note here for the friendly SPT. Our M133 data from last evening, was very much improved. And so, we're assuming that those caps that got out of that dome locker probably helped the situation. And probably ought to continue going that way.

SPT What did they find out about me Dick?

CC Man, that you're still up there.

SPT Am I creepy or not?

CDR Okay, Dick. I got the stuff for you.

CC Go ahead.

CDR Okay. One of the first things is that I think we should've cranked in earlier, but we didn't have a chance. It takes about 5 minutes to keep depress and repress the SAL. They're very, very slow. And if you add on the minute check and everything, it takes about 7 or 8 minutes to do that. And when you got a pass where you --

END OF TAPE

SL-11 MC-361/1

Time: 18:37 CDT, 7:23:37 GET

5/31/73

CDR - - the SAL there. It's very very slow and if you add on the (garble) check and everything, it takes about 7 or 8 minutes to do that and when you've got a pass where your suppose to depress the (garble) SAL and repress, you can go back again like night pass and you take a guy off the ATM to do that, it doesn't work. That's number 1. Number 2, you guys are slipping things into the PSA both in the morning and the evening with that end of time. And an example of that this morning was, it had to be TV13 set up on the PLT spot and it came into his PSA, or he would not have made the right time, when it was suppose to be taken. We didn't have a flight plan. We were scurrying around. I missed the momentum dump inhibit at 1200 and you're cutting the correr pretty close when you do that. We're still scurrying around down below. We've all ready given up shaving in the morning to and we do it at night after 0300. Just be advised that we're having a tight time making the PSA. And your time estimates for small activation initial pass has turned out to be completely wrong. We've had trouble with every piece of gear. And the examples today were, the CO2 monitor which turned out to be bad. The audio meter, I thought we got that straightened out. The first one was a goof on my part because I was hurrying and - But now I set down later some more information. And it appears to me the checklist is wrong or somethings goofed up in it. I shot a good hour and a half on that baby. But the most important thing that I want to get around to is, what I consider some violations of the ground rules we sort of have set up in the sim, as an example, today again, on my part was FAO, I feel violated two criteria today on my flight plan, turning over a repeating job to another crewman. I set up a limb SCAN MODE, and then had to turn it over to Joe, and you know that takes extra time to do that. Joe was running behind, so, you know, we did a lot of scurrying and we got it done.

CC Roger, we're still listening, Pete, and we got about 2-1/2 more minutes left.

CDR Okay, further I was hacked at 2300 tonight, because since 1900 until 2304 we finished every thing on time including inhibit, so I had alarm clocks going off in my pocket. If you'll look back over my plan, I've been whistling all over this space craft today, and I got it all done, only to get up here at 2300 and get a bunch of baloney you could have done on the teleprinter, and you guys missed the housekeeping DOF, which I had been shooting for all day, just because I said I'm gonna get it all done, I'm gonna get it all done and I'll meet those guys on time. Now part of that problem was S019, part of it was the SAL, part of it was that first pass, it was way too long

SL-11 MC-361/2

Time: 18:37 CDT 07:23:37 GMT
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I got it all done, but I got it done poorly, by only doing two of the reference bars, and running the four photographs, and it turns out when I did the last reference bar, which was in daylight, by the way, that it - to check the reference, the reference was locked when the first one had been on, and therefore, I don't know what the other two are. So I suggest that to do S019 correctly, that we take one whole night pass, and do nothing but send up four references to check, to check the four quadrants, so that we can do a very precise, very accurate job on that, and it gets data back to Carl so that his experiment can be done right. Are you still there.

CC Affirmative, Pete. We've still got about a minute left to go this pass. Tell you what, Pete, why don't we secure listening to your or - your summary here. We'll be more than happy to keep listening here to the evening status report, but I hate to cut you off in the middle. We got about 50 seconds left. The next pass is Hawaii at about 0040, and one of the things that I think that we really don't have a good feel for here on the ground and we'd like to know is, has accumulation in the last week put in a requirement for us to give you any time just to get squared away in the way of stowage, trash, and that kind of thing. We got about 20 seconds left and I'll see you at Hawaii.

CDR Yeah, we're barely hanging in on that, Dick, but I think we just got to ease the load just a little better by scheduling a little more efficiently.

CC Roger.

CDR Bye.

CC And Skylab, Houston. We still show power in M171. We're assuming that you're still going. If not, if you're still - if you're over with it, it should be off.

CDR Okay, Houston.

CC Roger.

PAO This is Skylab Control at 23 hours 42 minutes GMT. Vanguard pass just concluded, had Commander Pete Conrad discussing what the ground - some of the problems the crew has undergone today. Specifically Commander Conrad pointed out the - provide a better scheduling program for the crew. Said several times he found himself scurrying around the spacecraft and at one time he said he had alarm clocks going off in his pockets, which said he kept telling himself, I'm going to get it done, I'm going to get it done. He blamed part of this getting behind in the timeline, partly due to the S019 experiment, which they worked on this morning, and had operative by this afternoon.

SL-11 MC-361/3

Time: 18:37 CDT 07:23:37 GMT
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Commander Conrad made several suggested changes and he said we ought to spend more time scheduling more frequently. We now have a LOS period of approximately 55 minutes. The Flight Director Don Puddy is scheduled to hold a change of shift briefing in the news room at 7:00 p. m. This is Skylab Control at 23 hours 43 minutes GMT.

END OF TAPE

SL-II MC-362/1

Time: 18:52 CDT 7:23:52 GMT
5/31/73

PAO This is Skylab Control at 23 hours
53 minutes GMT. Skylab space station is now passing over
South Africa, the tip of South Africa, on a long LOS before
the next station pass over Hawaii. It is presently on its
250th revolution with the Skylab crew is probably eating
dinner at this time. The change of shift briefing with
Flight Director Don Puddy, is now scheduled for 7:15, 7:15
central daylight time. This is Skylab Control at 23 hours
53 minutes GMT.

END OF TAPE

SL-II MC-363/1
Time: 19:32 CDT 8:00:32 GMT
5/31/73

PAO This is Skylab Control at 32 minutes
GMT, 00 GMT. Flight Director, Don Puddy is in route to the
News Room, and the change of shift briefing will begin at
about 7:45. This is Skylab Control.

END OF TAPE

SL-II MC 364

Time: 19:38 CDT, 08:00:38 GMT
5/31/73

PAO This is Skylab Control at 00:37 minutes.
GMT. We expect to acquire Skylab space station on a Hawaii
pass, which will be about 10 minutes in duration. During
this pass, it is anticipated the crew will discuss the
days activities on their final lengthy pass over Hawaii
this evening. We will take the line down and play back any
air to ground at the close of the evening change of shift.
This is Skylab Control, 00:38 minutes, GMT.

END OF TAPE

SL-II MC-365/1

Time: 20:34 CDT 8:01:34 GMT

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PAO This is Skylab Control at 01:34 GMT. In two successive lengthy passes, one over Hawaii tracking station, and the second over Vanguard, the crew and Capcom Richard Truly, discussed the possibility of tomorrow's TV through the scientific airlock. However, at the close of the Vanguard pass, Capcom Dick Truly, told the crew that based on problems and procedures in Building 5, there will not, will not be any scheduled TV tomorrow to look at the solar wing of the orbital workshop. In other discussions in these 2 passes, the crew went over things of discussing things of possible fixture methods to the, the release of the orbital workshop panel. Among those things discussed was using a bone saw for one thing. Pilot, Paul Weitz said they would be hard pressed to use the saw to do it. On the Vanguard pass, Science Pilot Joseph Kerwin reported a malfunction light in the rate gyros. The ground is presently looking at this problem, and we'll pass up a further information on Hawaii pass, which is now scheduled for 46 minutes from now. We have 15 minutes and 36 seconds of live air to ground. We'll put up this line now.

CC Skylab Houston. We're AOS at Hawaii for the next 10 minutes.

SC (garble)

CC And, one thing real quickly. Be advised we're going to be - you guys did that power down earlier today, and we're going to be doing, commencing here at this pass, powering up a few things by command. One of them is going to be primary coolant loop and so you expect caution and warning in primary coolant flow. And next thing, for the guy at the ATM which I think is the SPT - - Hello there. We're configured at Hawaii to get an SUV monitored TV downlink, if you could give it to us this pass. And with that, go ahead.

SPT Okay, I'm going to sleep and I will monitor the caution light. It's the star tracker shudder started, or rather the shudder talk back started to operate rapidly here a while ago. And I tried everything, I could not stop it. Finally I just shut the power off on the thing.

CC What was the (garble) in when it was doing rapidly?

SPT The talkback was operating rapidly between barber pole and star, I guess. It was just click click, clicking and I couldn't stop it. If I went to manual and it wouldn't stop, I closed the door and it wouldn't stop it.

SL-11 MC-365/2

Time: 20:34 CDT 8:01:34 GMT
5/31/73

CC Roger Joe, copy and we will look at that.

SPT Thank you.

CC And CDR Houston. I'm not sure whether you guys are eating then or whether you have time this pass for the evening status report. Before you give us that, I'd like to ask you one question about this TV for tomorrow if you are listening.

CDR Go ahead.

CC Okay Pete, we've got some guys over in Building 5 that are pursuing how we would implement this TV at the minus C SAL to look at the SAS beam, and the further along they go and in some cases the more difficult the procedure gets, and it is basically a problem because of in order to get it, we were going to put the little 90 degree mirror on the front end of the TV camera, and that doesn't leave enough room in order to deploy it properly. However, we can continue to work on this. And I guess a question that we're interested in is the way I briefed it to you yesterday or the day before, was that we were interested in getting the hi fidelity TV, but the procedure is getting a little hairy. And I guess we were wondering in your opinion, whether or not the procedure would be worth going to or do you think you have enough information the other day on the fly around to in looking at it to answer the specific question, in your own mind and any ones that we may come up with.

CDR Second.

CC Okay.

CDR Okay Dick, I was just talking to Paul. The obvious thing that's holding it and the obvious thing that we couldn't get at. It is entirely possible there was enough meteoroid shield left to, just off the other side of it that we didn't see it neither would you see it with the television I don't believe. I don't think you'd have the resolution to tell, neither would the television about the strap. I think we could probably describe that (garble) in the question that no one (garble)

CC Okay, stand by just one please.

CC CDR Houston. One question that we'd like to add now and I'm not sure whether you've been asked this or not, but I think it is worth talking about. And that is, we're considering using the bone saw as a method of cutting through the strap. And one of the things we were interested in knowing, at least, was whether or not the bone saw could be, whether or not the strap that is causing the SAS beam to be held down can be gotten to with

SL-II MC-365/3

Time: 20:34 CDT 8:01:34 GMT

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the bone saw. We have already verified that the bone saw itself is quite adequate when handled properly in cutting through the angle iron. And if possible I understand we want to slip the bone saw underneath the strap, in other words between the strap and the SAS beam. Over.

CDR Are you talking about the (garble) saw Dick?

CC Say again please Paul?

PLT (garble) saw, survival cutter (garble) with a rigity edge on it right?

CC Yeah, the one with a ring at each end, and like little bity barbed wire in the middle.

PLT I think you'd be hard pressed, wait a minute, let me talk to Pete.

CC No, I don't think that's any good Dick.

CDR The only chance that we would have right now of getting that thing off is taking something like the pry bar in the MDA tool kit or up at the hatch end some of those hatch tools, which I haven't looked at recently. Then prying it off, because what it has done, is it has got it and whipped around so hard that it has got a couple of screw heads or something through that aluminum skin. And that's what is holding that strap on there. And that's why we couldn't just pull it off. And I have the feeling, (garble), that if you could get something underneath it to pry with, EVA, you could have one hand on the panel right next to it and putting underneath it to pry, I believe you could work that strap off there rather than cut it, because I don't think it is hard enough around the lower sides. There's nothing on the lower sides to hold it up. To hold up the gamble.

CC Okay Pete, frankly I think that helps us out and I'll be sure and get that input put in. And either way, it is real easy to take the tools required out there when we get to that. We still got about 3 minutes in this pass. Are you prepared on the evening status report here for this pass or should we wait til later.

CDR Let's wait til later.

CC Okay, if you have time, I've got a couple of more questions I would like to ask you and one of them is about power and kind of important to us.

CDR Okay, go ahead.

CC Okay, earlier today when you guys powered down, before the power down we were averaging about 4300 watts. And the way we planned the power down, we expected this to decrease at about 300 watts. However, after you finished the power down, we ended up at about 3700 - -

END OF TAPE

SL-II MC-366/1
Time: 20:43 CDT 08:01:43 GMT
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PLT - decrease it about 300 watts, however after you've finished the power down, we ended up at about 3700, which is a Delta of 600. So the question is, it looks like that an extra 300 watts came off the line somewhere around in there and do you have any explanation about what caused the power level to be lower than expected. Over.

CDR (garble) We was watching out for switches. We've been running absolutely minimum lights (garbled) we leave all the lights off in the experiment compartment when we're not down there, and we leave them all off up in the dome area, and we leave them off in the bedroom. We leave them off everywhere we can leave them off. There's one place I know. I can't think of anything else, though, specifically.

CC Okay, thank you, Pete. One more question and this is - the other day when you did the EREP pass, we have a question on the S192 ready light. It turns out when we - Well, let me ask you the question real simply. Did the S192 ready light come on at anytime during the pass?

CDR Okay. The light came on when it was supposed to.

CC Okay, real good. It just turned out twice we got a status from you and both times they were off, but at those times they were supposed to be off, and we just were wondering about the middle. Stand by 1 on the next pass, please.

CC Skylab, Houston. We're about 30 seconds from LOS. The primary coolant loop, be advised, looks good. We're gonna be seeing you the next pass down at the Vanguard. And that's going to be at about 01 after the hour. We'd like to go ahead and have the evening status report there. And delay the medical conference one pass, if that's okay with you.

CDR Okay, that's fine, Bill, we'll have it for you then. And be advised the high water tank was 92, and the low one was - what was it, 85- 85 and the information is on B Channel.

CC Thank you, Sir, see you at Vanguard.

CC Skylab, Houston. We're AOS at the Vanguard for 8 Minutes.

CDR Roger, Houston. The SPT has a problem for you to talk to you about. We're on 1-Z GYRO.

CC Roger, understand, and I'm standing by to listen.

SPT How's that, Pete?

CDR Go ahead.

SPT Okay, hey, Houston, about 5 minutes ago

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Time: 20:43 CDT 08:01:43 GMT

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we had ECS MALF and a cluster attitude light, which went on and then off. The ECS MALF is still on, but we have a single notation in the Z-GYRO, with the switch in the 13 position, indicating that's operating GYRO 1 only. The CDR reported significant TACS firings, which I missed. The RATES are low. The CMGs look good, and we wish you'd fix it for us. Over.

CC Well, we'll sure be looking at it.

SPT Okay.

CDR All right. Here's the evening status report for you. you ready.

CC Yes Sir. Go ahead.

CDR Okay. The - wait 1- everything went blank. Okay, the CDR ate everything today except for dinner he couldn't quite hack the green beans, so I dumped them. Otherwise, everything else was taken.

CC Roger.

CDR The SPT ate all his breakfast, item 25, salmon, he substituted for peanut and jam - peanut butter and jam, because (garbie). And he ate all his dinner, except the catsup, which was spoiled, and he will eat all his snacks except apricots.

CC Roger.

CDR The PLT ate everything up to dinner. He did not eat his bread and his snack, item 62, he only drank half his coffee.

CC Roger.

CDR And the photo log Day 151. 16 millimeter M-4874 Alpha, CI 01 07, CI 02. Next line 48 74 Bravo, we will shoot up that magazine on it tonight. CIO 1, 00, CIO 2. On 35 millimeter CI 26, the frame count is now 27. The Hasselblad status, and we'll have to get some more information to you on the number on that one right now. But CS04 magazine was no good. It had the red indicator, and we couldn't make it run in the other camera, and so we took the fuse out of the other camera and put it in HDC02 which now has CS05 on it. And I have a question. Do we have any spare Hasselblad fuses? I know we have DAC fuses, and we could find no Hasselblad fuses looking in the stowage book.

CC We'll get you an answer on that, Pete. Go ahead.

CDR Okay, I don't think we had any flight plan deviations that you don't know about. Stowage item changes, none that aren't on B channel. Inoperable equipment, none that you don't know about. And the one thing that we have yet to be able to find is the purported changes in salt for or menus and we've looked around and looked

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Time: 20:43 CDT 08:01:43 GMT
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around in the CSM stuff and we can't find it anywhere, and we'd appreciate it if you'd uplink our salt requirements for our six menus, please.

CC Roger, understand. You're unable to find your salt requirements for the menus you have on board, and we will plan on uplinking that. And in answer to your question on the Hasselblad fuses, that's negative. There are no spare fuses for the Hasselblad on board.

CDR Okay, well, we can make a slug if we need one.

CC Rog.

CDR (garble)

CC Stand by, please.

CC Skylab, Houston, be advised, we're powering up RATE GYRO 3 by command. We're gonna let it spin up, and we will not be enabling that GYRO until Hawaii. And to let it warm up, and I did not get the last transmission. It was very short, if it was important.

CDR I just said that was it over to you.

CC Okay.

CDR I - I would like to add one thing, Dick, I think tomorrow, rather than be a day off, it's gonna be a field day. We've got an awful lot of cleaning up to do in here. You can't help but get food around, and a few things like that, and we really feel the need to clean house tomorrow.

CC Roger, CDR, be advised based on the problems we're having over in Building 5, and on your conversation we had with you at the last site, we will not, repeat, not schedule the TV for tomorrow. We - I'm looking at the flight plan now that we'll be uplinking to you, and it's got an awful lot of, what we say is off-duty time, and like you say, I'm sure it'll be a field day up there, but that's the way we'll plan to go tomorrow.

CDR Okay, very good. Any word for us on our power. Are we going to be able to go back to doing EREPs? Have you guys got any story on that yet?

CC Pete, we're still analyzing the data. We believe we certainly will be able to go back and get some EREP passes, but we - they probably will be restricted, and we're - they're a lot of guys in the background arguing about the proper angles of EREP data pass, but we will be doing some more EREP.

CC Skylab, Houston. We're about one minute from LOS at Vanguard. Be advised that the next pass is a Hawaii pass at 02:21. It is a very short pass, and that will be your medical conference pass, and I bet you don't get it done there. We'll have one more pass this

SL-II MC-366/4

Time: 20:43 CDT 08:01:43 GMT
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evening, and we'll get it there, but Dr. Ross will be talking to you at Hawaii at 02:21.

CDR Roger, Dick.

PAO This is Skylab Control at 1:51 GMT.

Skylab space station on its 251st revolution, will have its next AOS over Hawaii in approximately 29 minutes. This is Skylab Control at 1:52 GMT.

END OF TAPE

SL-II MC-367/1

Time: 21:19 CDT 08:02:19 GMT
5/31/73

PAO This is Skylab Control GMT 2 hours and 19 minutes. Skylab space station is passing on the outer limits of the Hawaii tracking range at this moment. We don't anticipate any air to ground. It's only a 57 second pass. The crew is well into their presleep activity checklist and getting ready to bed down for their seventh night in Skylab. This is Skylab Control at GMT 2 hours and 19 minutes.

PAO We will keep the line up and monitor in the event there is air to ground on this pass.

PAO Skylab Control at GMT 2 hours and 25 minutes. Obviously there was no air to ground on that pass. We will have a station pass at the Vanguard tracking station in 22 minutes from now. This is Skylab Control at GMT 2 hours and 25 minutes.

END OF TAPE

SL-II MC-368/1

Time: 21:45 CDT 8:02:45 GMT

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PAO This is Skylab Control, 2 hours and 45 minutes GMT. We expect we will have AOS over the Vanguard tracking station very shortly. And we will put the line up and wait for an air to ground between Capcom Dick Truly and the Skylab space station.

CC Skylab Houston. We're AOS at the Vanguard for the next 8 minutes.

CC Skylab Houston. We're AOS at the Vanguard for the next 7-1/2 minutes. And I'd like to speak to someone about the attitude control situation please.

PLT Okay, go ahead shoot.

CC Rog. At the last Hawaii pass, we reset the ACS malf light and also enabled rate gyro number 3, so we're going to keeping a good eye on number 3 as compared to 1 and 2. We do have a star tracker pad that we very much like to get up to you, and so we could get the star tracker locked on in order to get a Z axis reference. That's the good news. The bad news is that the star is not available until 03:45 zulu, which is about 45 minutes or an hour from now. And we are wondering if you guys are still going to be up because we made you stay up late anyway. And we'd like to read you this star tracker pad.

PLT We'll stay up, we'd love to stay up late. That will give us a chance to be mad at you tomorrow.

CC Okay. Okay, can I give you some numbers then?

CDR Go on.

CC Okay, the star Acamar inner gimbal is minus 0144 outer gimbal plus 0500. And I have a note about that, Joe. If you fail to acquire there, we'd like you then to try an outer gimbal of plus 0800 and if you still fail to acquire we'd like you to bracket it on the other side and try outer gimbal of plus 0200. And the first acquisition we think you can have possible is 0345 zulu.

SPT 3:45 and that gives us a warm feeling. We'll get her.

CC Outstanding. Okay, we're wondering if you've had a chance to try that fine Sun sensor little malf procedure we read up a while ago and what the status was on that.

SPT Yeah, Dick, we're firing it up, went ahead and drove it. The left right was usual as we didn't have to refuel it. It reads 0, it was all right. However, in both directions the thing drove backwards. It commanded points to the left then it points to the right and up and down and also reverse. It went left right persisted even after it reads 0. Now in the up down, it would hang up

SL-II MC-368/2

Time: 21:45 CDT, 8:02:45 GMT
5/31/73

at minus 48 as we commanded down and then (garble) up, it would get out a couple of three hundred seconds. And from there would be counting oddly or it won't budge I didn't notice the size (garble) would jump up to 2300, whatever, anyway it wasn't working.

CC

Roger, copy. Stand by 1.

SPT

Okay, if it sounds confusing, it really was. The thing would stick on 48 until you were (garble) on driving off the laminated and lap up to 2300 and something and start counting down. You'd say hey I've got it and you'd go back towards the center of the site and at 48 she'd freeze again.

END OF TAPE

SL-11 MC-369/1

Time: 21:54 CDT 08:02:54 GMT

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SPT (garble) they're coming down.
CDR Hey, I got it.
SPT Then you'd go back towards the center of
the Sun, and at 48 you'd freeze again.

CC Roger, we copied that. Also one more
official note for this pass. We're - As I told you a while
ago, we're - we did our commanding up from the ground to
power up a couple of things and there are some switches
that we would like you to power up, now that the last ATM
attended pass is over. One is on Panel 614, 4 circuit
breakers for the DUCT 1 FANS, we'd like them CLOSED, and
also Panel 203, AIRLOCK MOD'LF FANS, CIRCULATION 1, 2, and
3 switches, 3 of them to HIGH. And they'll stay that way
all night.

CDR Okay, we got that, Dick.

CC Okay.

CDR (Garbled).

CC Say again, please.

PLT John, I think the old heap is very gradually
cooling off. It's getting more comfortable. Joe and I were down
here this morning when you turned down - when we turned the DUCT
1 FANS OFF. I don't know if it's in our heads or not, but we found
it got a little stuffy for awhile, but we soon acclimated to that.
Now, if you got all the circ fans and the duct fans running to-
night, I bet we make another degree or two tonight.

CC Well, let's sure hope so.

PLT Say, Dick. Awhile ago we asked for the
coordinates for the pyramids, which we haven't got yet,
which doesn't really matter, but tomorrow's our day off. And
also, now about, without looking here, and if it's not too much
trouble I'm certain you got the information somewhere, and I'd
also like the coordinates of Mount Kilimanjaro if you can find
them.

CC Roger. Copy.

CC Skylab, Houston. We're about a minute
and a half from LOS at Vanguard. As long as you all are
willing to stay up. Your choice. We are going to have a
pass coming up very shortly at Ascension at 03:02 and I'll
call you there, if you'd like. Otherwise we'll see you in
the morning. You might - one note of interest that 1 -
Day before yesterday at the South Bay Memorial Hospital in
Los Angeles. Jerry T. Morton, III was borned and his Mamma
is doing real fine, and Jerry is very proud.

PLT That's good. I wonder if he's a turtle.

CC I'm sure he's a future one and a fighter
pilot.

SL-II MC-369/2
Time: 21:54 CDT 08:02:54 GMT
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PLT That's good. Yes, we'll be looking forward to hearing your sweet voice at 03:02, Dick, besides the CDR's peddling a bicycle. Nobody else can get to sleep anyway.

CC Roger that.

PAO This is Skylab Control. GMT 2 hours 58 minutes. We have a report from Dr. Charles Royce, Skylab Flight Surgeon on a recent conversation with the crew. "The Skylab crew remains in good physical condition, and are anticipating their day off tomorrow. No medical problems have arisen during the medical experiments to date. Tomorrow the Science Pilot, Dr. Joseph Kerwin, may find time to fully activate the in flight medical support system." This concludes a statement by Dr. Charles Royce, Skylab Flight Surgeon following a private medical conversation with the crew earlier this evening. We have LOS at present time. We will pick up AOS at Ascension at approximately 2 minutes and 15 seconds from now.

END OF TAPE

SL-II MC-370/1

Time: 22:06 CDT 8:03:06 GMT
5/31/73

PAO This is Skylab Control, GMT 3 hours
6 minutes. We have acquisition at Ascension tracking station
we will pick up the air to ground.

PLT We'd like to hear from you again.

CC Hello there. The only note I have is
in between passes the (garble) told me that the exact time
on that star tracker when the computer will let you lock
on is about 3:48, so just be patient right around that time,
we ought to get a good lock and ya'll can go to bed and
we'll be all set for the night.

SPT Okay, good enough.

PLT Say Dick, maybe you guys down there
expected it and we've been forgetting to tell you for a
couple of three days. On the ATM, it says colored on one
side. You notice if we look out the SPS window towards
the wide side of the vehicle I think it is, yeah, towards
the minus Y side of the vehicle that side of the ATM is turning
yellow and it darkens a little bit. Then you look out
the other side, out the plus Y side and it looks like it just
came out of the factory it is nice and spanky clean white.

CC Roger here, copy.

CC Skylab, Houston. We're about 45 seconds
from LOS here at Ascension, last pass of the day. So you
guys have a very good night sleep and everybody say good
night, Dick.

PLT Okay you say it y'all down there.

CC Rog.

CDR Hey Dickie add 1500 watts to the old
(garble) I just finished that.

SPT Good night Dick.

CC Rog, all that. Good night.

CDR Hey also for PLT, I forgot (garble)

CC Rog.

CDR We're all shaved and we're leaving
for the party so don't be surprised if you see (garble)

CC Okay, me too as a matter of fact.

CDR (garble) idea there old buddy.

CC Thank you.

PAO This is SKylab Control at GMT 3 hours
and 12 minutes. As you heard, Commander Conrad bid good
night to the ground and astronaut, Capcom Richard Truly
said good night. This concludes the crews 7th day in
Skylab. A day which saw scientific and medical experiments
performed. ATM experiments and several medical experiments
were performed throughout the day. It was a day where
Commander Conrad discussed with the ground the type flight

SL-II MC-370/2

Time: 22:06 CDT 8:03:06 GMT

5/31/73

planning schedule. He also advised the ground how he thought the orbital workshop solar array panels might be freed in a possible future EVA. Commander Conrad told the ground that their day off tomorrow, their first day off in space, will have them doing a lot of housecleaning, putting things away and such. The problem today again persists as in the past was the power problem. Two of the 18 CBRMs, charger battery regulator module of which there are 18 on board, which provide the power from the solar array into the onboard batteries. Two of these CBRMs are off line. The ground is still looking at this problem and we'll continue to look at it throughout the night. Their first day off in space, tomorrow, Friday, the crew is scheduled to have another first in space, a shower, a hot shower. Each of the crew members is scheduled a time block of approximately 55 minutes during which time, they will have a hot shower. This concludes the Public Affairs reports from Mission Control Center at GMT 3 hours and 15 minutes. The next report will be at 0600 central daylight time, Friday morning. Again this concludes the Public Affairs announcements from the Mission Control Center. This is Skylab Control at GMT 3 hours and 15 minutes.

END OF TAPE

SL-II MC-371/1

Time: 22:46 CDT 08:03:46 GMT
5/31/73

PAO This is Skylab Control at GMT 3 hours and 46 minutes. We anticipate acquisition by the Guam tracking station on this pass, which may last 7 minutes in duration.

PAO This is Skylab Control, GMT 3 hours and 56 minutes. Indications are the crew has began their - has begun their sleep period for the seventh night in the Skylab space station. Their eighth day will begin on schedule at 6:00 a. m. central daylight time, Friday morning. As the crew settled down for the night, temperatures in the wardroom - the wardroom ceiling were registering 80 degrees Fahrenheit, on the wardroom wall 81 degrees Fahrenheit, and the sleep compartment ceiling was 82 degrees Fahrenheit. Tomorrow the crew has a scheduled day off. Included in their flight plan for tomorrow will be the first in space - the crew is scheduled - each crew member is scheduled to take a hot shower Friday afternoon. A block of 55 minutes is allotted for each man for this shower. As the spacecraft nears completion of its 252nd revolution as it crosses down the southwest Pacific, this is Skylab Control at GMT 3 hours 58 minutes. The next announcement will be at 6:00 a. m. central daylight time. There is a scheduled change of shift briefing in the Building 1 news room Friday morning at 8:00 with Mel Brooks, Flight Operations Management Room Manager. Mel Brooks of the FOHR at 8:00 a. m. Friday in the Building 1 news room. Again this concludes the final report from Skylab Control at GMT 3 hours 59 minutes.

END OF TAPE

SL-II MC372/1

Time: 06:00 CDT, 8:11:00 GET
6/1/73

PAO This is Skylab Control; 11:23 Greenwich mean time. Skylab space station presently crossing the coast of France, the Bay of Biscay, on revolution number 237. In acquisition through the Madrid tracking station - another 4-1/2 minutes remaining. The crew is still apparently asleep at this time. At any rate they've not contacted the ground. The entire day today is off duty, or a day off for the crew of Skylab. Very simple Flight Plan. Electrical power situation on Skylab remains essentially unchanged from yesterday. The charger battery regulator modules, CBRMs, 3 and 15 still are off line. Sixteen out of 18 CBRMs functioning properly and keeping the batteries topped off with electrical charge. Current state of charge 69.9 percent average for all the batteries - all the batteries that are still on line. At 8 a.m. in the Houston News Center, Mel Brooks, who is manager of the flight operations management room, called by acronym FOMR, will be in the change-of-shift press conference instead of the flight director. Repeat, this is 8 a.m., Houston News Room this morning, Mel Brooks. So at 11:25 Greenwich mean time, about 2-1/2 minutes to loss of signal through Madrid, with a 42 minute gap across to Honeysuckle, Australia, Tracking Station. This is Skylab Control.

END OF TAPE

SL-II MC-373/1
Time: 06:45 CDT
6/1/73

PAO This is Skylab Control; 11:45 Greenwich mean time. Skylab Space Station now crossing the Indian Ocean just to the northeast of the island of Madagaasca. On revolution number 257. 22 minutes to acquisition at Honeysuckle, Australia. The crew sleeping soundly at this time according to the flight surgeon. This is a situation in which we won't call them; they'll call us. The crew Skylab being permitted to sleep beyond the actual flight plan. Post-sleep activity, which had been scheduled at about 11:00 Greenwich mean time. Average workshop temperature is now down to 79 degrees Farenheit; during the night period gradually coming down. Again a reminder to newsmen in the Houston area. At 8 a.m. central daylight time, Melvin Brooks, who is one of the flight operations management room, FOMR, managers, will appear in the Houston News Room for a briefing on the current situation in Skylab - system status and so forth. 8 a.m., small briefing room, Mel Brooks, FOMR manager. As we come across each tracking station, the air-to-ground line will be brought up, in case the crew does call, so all the black boxes will get any air-ground; however, we will not necessarily preface each station pass until the crew is definitely awake. At 11:47 GMT; Skylab Control.

END OF TAPE

SL-II MC374/1
Time: 07:06 CDT
6/1/73

PAO This is Skylab Control; 12:10 Greenwich mean time. Twenty-six minutes to acquisition at Goldstone. We've had loss of signal through the Honeysuckle, Australia, Tracking Station. The crew still asleep at this time. Hanging papoose-like in their sleep stations, if one can hang in zero-g. Average temperature in the workshop has been reported at 79 degrees Fahrenheit. We have a change in the participant in the change-of-shift press conference scheduled at 8:00 a.m. in the Houston News Room. Instead of Mel Brooks, the FOMR manager, it will be Flight Director Milt Windler. To repeat, a change in the participant in the 8:00 o'clock change-of-shift press conference, Houston News Room. Milt Windler, Flight Director, instead of Mel Brooks, FOMR manager. 12:11 Greenwich mean time; Skylab Control.

END OF TAPE

SL-II MC375/1

Time: 07:17 CDT, 8:12:17 GET
6/1/73

PAO This is Skylab Control; 12:17 Greenwich
mean time. Skylab space station now is to the northeast of
the islands of New Zealand. Would you believe we have another
change in the Change of Shift Press Conference it has slipped
now until 9 a.m. instead of the earlier announced 8 a.m.
To repeat we've slipped the Change of Shift Press Conference
to 9 a.m. instead of 8 a.m. Participant Flight Director,
Milt Windler. 12:17 Skylab Control.

END OF TAPE

SL-II MC-376/1
Time: 07:35 CDT
6/1/73

PAO This is Skylab Control; 12:56 Greenwich mean time. Skylab Space Station across the North Atlantic on the start of revolution 258. About 2 minutes out of acquisition, with overlapping coverage, with Madrid and Canary Island Tracking Stations. Reminder again to Houston area newsmen - change-of-shift press conference, tentatively firm, or firmly tentative, at 9:00 a.m. with Flight Director Milton Windler. Small briefing room. One item that will be teleprinted up to the crew today for some off-duty rubber necking around the earth. They'd asked for potential items to be looked at out the wardroom picture window or through various optical devices. The ground will teleprinter up a list of four features on the Earth, three of which are man-made. One started out natural and got modified by man, namely Mount Rushmore. The three man-made subjects are the Yucatan Pyramids, the Guatamala Pyramids, and the Nile Pyramids. The fourth subject for scanning by the crew is Mount Kilimanjaro and Kenya. Repeat again - 9:00 a.m. press conference with Flight Director Milton Windler, Houston News Room. At 12:58 Greenwich mean time, standing by live on the air-ground should the crew call the Control Center on the air-ground during the Canary-Madrid pass, this is Skylab Control.

END OF TAPE

SL-II MC377/1
Time: 08:42 CDT
6/1/73

PAO This is Skylab Control, 13:43 Greenwich mean time. About a minute away from Honeysuckle tracking station, uncertain at this time whether the crew will call us or we'll call them. We're still looking at a 9 a.m. press conference, plus or minus a few minutes perhaps, with Flight Director Milton Windler. He presently is in the morning management meeting. And will be in the news room, Houston News Room, as soon as he breaks out of this meeting. Current average temperature in the Skylab workshop now standing at around 79 degrees. To repeat the electrical power situation on Skylab, charger battery regulator modules 15 and 3 are still off line. However, at this time the state of charge on the batteries stands an average of 90 percent of capacity.

CC Skylab, Houston. AOS for 5 minutes.

SC Good morning, Houston.

CC Good morning, Skylab. We have one message here for you and we'd like for you to inhibit the MPC at the ATM panel so that ground can do unattended OPS. Also on the - unless you desire them today we were going to hold the AOS/LOS calls.

SC Okay. Say Houston, we've got a question for you.

CC Go CDR.

SC How much of that VTR tape can we have today?

SC We don't need the answer right away.

CC CDR we've dumped one three-minutes of that tape and should you want to use it you can rewind and use that portion and we plan to dump virtually the entire remainder on this stateside pass.

SC Okay, what we'd like if you're going to dump is to go ahead and dump it - we would like to have a full tape to give you some TV. We've got GARBLE on the water ring lockers and a few other things.

CC Copy, Pete.

CC And we'll give you a call when we've completed the dump and we'll be most interested in seeing the new games.

SC Fine show, Hank.

CC Also we need the DAS clear now please.

CC Skylab Houston, LOS in 30 seconds. We'll have you at Hawaii at 14:05. We'll dump tape recorder at that point. Also did the CDR record any more time line comments after the evening report last night, we couldn't find it on the recorder.

SC Negative, Houston. But sometime today we may lay a few more specifics out.

CC Copy.

SL-II MC377/2
Time: 08:42 CDT
6/1/73

PAO This is Skylab Control. Loss of signal at Honeysuckle. Hawaii in 13 minutes. First contact with the crew today from the ground with spacecraft communicator Bill Thornton. Crew mentioned that they would like to have the full 30 minute capacity of the onboard video tape recorder. Over the upcoming stateside pass the VTR will be dumped to the ground so that the VTR tape will be free for the full 30 minutes, so that the crew may show - may record on TV - some of their off duty recreational activity such as their track meets held around the stowage ring. Spacecraft Communicator Bill Thornton suggested that the AOS/LOS calls at each station up to Skylab be omitted today during their off-duty day. And the crew agreed that this was a reasonable way to handle it. However, we will bring up the air-ground circuit in the off chance that the crew will call the ground or vice versa at each station pass. Assuming that Flight Director Milton Windler gets out of the morning management meeting in the next few minutes we're still looking at a 9 a.m. Change of Shift Press Conference in the Houston News Room. Eleven minutes to Hawaii; 13:54 Greenwich mean time; this is Skylab Control.

END OF TAPE

SL-II MC-378/1
Time: 09:00 CDT
6/1/73

PAO This is Skylab Control; 1400 Greenwich mean time. Skylab Space Station some 5 minutes yet from Hawaii acquisition. We have an announcement at this time regarding the Skylab III manned mission, which reads as follows: The National Aeronautics and Space Administration, today announced July 27, 1973, as the target launch date for the Skylab III manned mission. Skylab III had previously been scheduled for launch on August 8, 1973. Skylab Program Director William C. Schneider stated: "The unexpected usage of the cluster hardware during the unmanned period has exposed the electronics, batteries, and systems to unusual environments. It seems prudent in the interest of recovering the maximum scientific data to move the launch date forward." End of quote. Also, the new launch date will schedule the mission at a time, when a relationship of the sun to the orbit plane is most favorable and will therefore provide the most power for conducting the experiments. The precise launch date will not be known until the end of Skylab II, since orbit perturbations of the workshop may cause a change. However, the first launch opportunity for a 5th orbit rendezvous on or after July 27, will be selected. A 1 or 2 day change may be necessary. On July 27, a launch window is predicted to open at about about 7:00 a.m. Eastern daylight time. The change of shift press conference should be ready to begin momentarily in the Houston News Room. And at 14:02 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC379/1
Time: 09:22 CDT
6/1/73

CC GARBLE Skylab.
SC SPT has a question for you - confused about half urine samples. We've been stoving our urine samples and logging them in the slot whose number is the day they were collected. That is yesterday rather than today. Today we're in day 8 - it says day 8 urine samples but we still haven't opened day 7 slot in the freezer with nothing in it - My question is should we leave the day seven slot empty and go ahead and take half urine samples or should we do full urine samples today and half urine samples tomorrow?

CC Stand by half on that, Joe.

SC Say, again.

CC Be back in just a second.

SC Okay.

PAO This is Skylab Control the conversation from Skylab is live. There was no accumulated tape during the press conference to play back we're live at this time over the States.

END OF TAPE

SL-II MC380/1
Time: 09:34 CDT
6/1/73

PAO This is Skylab Control; 14:34 Greenwich mean time. About a minute and a half before acquisition at Canary Islands, with a slight overlap through Madrid on down, nicking the edge of the Ascension Island tracking circle. At the beginning of revolution of 259, the crew likely involved in breakfast at this time. We will leave the circuit up through Ascension loss of signal, which is about another 13 minutes before LOS Ascension. Skylab Control standing by.

CC SPT, Houston.

SC Go ahead.

CC Joe, it appears that the people would like to have you follow the protocol, and that you put the samples in the number drawer on the day that's sampled. Now if we have the story correct here, that would leave day 7 blank.

SC I don't believe that story, Bill. And if you noticed, we started out in slot 1, with A-1 samples for the NBPA.

SC That's right.

SC I think we ought to take both samples today and half samples tomorrow and consider the day on which the sample is collected, rather than that on which it is produced - if I said that right.

CC Stand by. That occasions some discussion.

SC And while you're smoking that over, I went up about 3 minutes early to catch S009 and it was already open. So I'm just going to go up - you can consider that one already, and I'll go up and catch it the second time early enough to give you the exact time then.

CC Copy, Pete.

SC Good morning, Houston; CDR.

CC Go, CDR.

SC Why don't you all just forget the urine. We were going along great until you put that on the pad. Our onboard information jives with the tray, and everything's ticky-toe; we'll bring you back what you need, and y'all just forget it. Okay?

CC Okay, Pete. Thank you.

END OF TAPE

SL-II MC381/1
Time: 09:47 CDT
6/1/73

PAO This is Skylab Control; loss of signal through Ascension. Next station Carnarvon in 29 minutes. State of charge - average state of charge on the ATM batteries now standing at 68 percent total capacity. Space station now at the outset of revolution number 259 crossing the west African coast. Day of rest today for the crew of Skylab. However, they apparently will be making like tourists today, doing a little eyeballing of the Earth and they mentioned that they want to record on video tape for delayed piping down to the ground some of their recreational activities such as a mini-track meet around the stowage ring in the workshop. 14:52 Zulu, this is Skylab Control.

END OF TAPE

SL-11 MC-382/1
Time: 10:19 CDT
6/1/73

PAO This is Skylab Control, at 15:20 Greenwich mean time. About 20 seconds or so from acquisition from Carnarvon. Very low elevation angle past there at 3/10th of a degree. However, Honeysuckle has the fairly long pass coming up of 8 minutes plus. We're standing by for any communications through this station from the crew of Skylab. 15:21, standing by, Skylab Control.

SC Hi, Houston. Are you with us?
CC That's affirmative, CDR.
SC Okay. Would you give us AOS times from now on. We've had some questions and we figured we better know when you were there.

CC Okay. Will do.
SC Thank you.
CC And we've got you for about another 6 minutes here, CDR.

SC Okay.
SC Well, I tell you what we're commencing doing right now, is we're cleaning up a lot of the stowage stuff. And for the rest of the day we have things like the T027 poles that have never been taken apart and put away. And we've got a whole bunch of stuff like that to do. So, we'll be busy for most of the morning, doing stowage recheck and stuff like that.

CC Yeah. We sort of surmised that, Pete.
SC Bill, I have PLT with a couple of requests, here.

CC Go ahead, PLT.
SC Our EREP slider thing up here has 8 revs depicted on it. Where are you at one node and one time a day? Would you ask them if they'd be kind enough in the future to send us up say ah, two or three equally spaced periods, just so we don't have to go to all the trouble to figure it out ourselves?

CC We copy that. We'll get it up.
SC Okay. Now, I've got one other question, it does not require immediate answer. At the end of the day I've got this housekeeping 60 Romeo scheduled, the approach is different depending on whether that tank is going to be used by the next crew in activation or not. I would like to know if that applies to any or all of the tanks that I'm suppose to sample today?

CC We'll get you an answer.
SC You understand, it goes to six parts per million I think if we're using it, or if the next crew's going to use it right away, otherwise it goes to 12 or some such number, and I just have to know which of those are going to be used by SL-III.

SL-II MC-382/2
Time: 10:19 CDT
6/1/73

CC Copy, PLT.
CC And there's a couple of messages here.
SC Go ahead.
CC On the change on the teleprinter paper
tonight there was a callout for a housekeeping 60 Hotel in
the CDR details.

SC Okay, wait one.

SC Okay, go ahead.

CC And that by the book would mean a change
out of the head which is obviously an error. What is intended
is simply a teleprinter paper changeout.

SC Okay, understand.

CC Also for the CDR on TV.

SC Go ahead.

CC We're still dumping the VTR we had -

SC Go ahead.

CC We're still dumping the VTR.

SC Okay. We wouldn't get to it this afternoon

and I know you've got TV planned so just let us know how much
we could use if any today - we don't want to take up tomorrow
or whatever you've got planned.

CC Okay, Pete. We were broken up there. We
planned to finish over Hawaii and Goldstone on this pass and
you can have the VTR empty at 152:15:59.

SC Okay, I won't get to it before then, and
I'll tell you - getting bright ideas another number - better
give me a number that we've got to be finished with it by so
you can dump it and get back to your schedule.

CC Okay, we'll get that back to you. Also
if you want it we can bring you back real time between 17:33
and 17:50 or 19:10 and 19:27, 19:10, 19:27 would be best for
us if you should desire that.

SC Okay, 19:10 to 19:27, let's see that looks
like a fairly good time. We'll see what we can do and we'll
keep you posted.

CC Okay, we copy.

CC Skylab you'll be LOS in one minute. AOS
at Hawaii at 15:41.

SC Roger. Roger.

PAO This is Skylab Control, 15:29 Greenwich
mean time, breakup of signal as the space station goes over
the hill from Honeysuckle tracking station. Eleven minutes to
Hawaii acquisition. Currently the state of charge - average
state of charge on the Skylab batteries now around 79 percent of
total capacity. Crew involved now in some stowage that they
had gotten behind on using part of their off-duty day to
square away the stowage items, place for everything and every-
thing in its place. There's a possibility, as discussed over

SL-II MC-382/3
Time: 10:19 CDT
6/1/73

Honeysuckle, of live TV later on today for 4 hours starting at 19:10 Greenwich mean time. Ten minutes to Hawaii and 15:31 Zulu this is Skylab Control.

END OF TAPE

SL-II MCJ83/1
Time: 10:41 CDT
6/1/73

PAO This is Skylab Control; 15:41 acquisition at
Hawaii, 9 minutes.

SC Houston, Skylab.

CC Go, Skylab.

SC With respect that (garble) 487 wants
ALPHA the sound meter. Two of us smoked over this thing yester-
day per the checklist, and we just concluded that there is,
in fact, something wrong with either the checklist or the
sound meter, but by GARBLE around with it, I think we
can get (squeal) so we're in the process of gathering those
now and I'll put them on B channel for you later. And ya'll
can (squeal).

CC Pete, your feedback makes you unreadable.

SC Okay, how's this, Houston?

CC Much better.

SC Okay, you might note the problem that
we have with feedback which we never saw before is out of the
wardroom and anytime we have an SIA on either - in either
SAL or the head for that matter, we get feedback, and we never got
that before. So that has been one of our problems, making
sure when you come up that we've got the right configuration
on these VOXes to prevent feedback. I was talking about the
audiometer. Did you get that portion of it?

CC We got just bits of it - that you had -
fiddling around - thought that you had it operational was what
I copied, Pete.

SC Yeah. Two of us went through the check-
list just to make sure that I hadn't made a mistake in doing
the procedures and it, in fact, does not run the way the
checklist says, but I can get meaningful readings in the order
of 50 to 60 dB, depending on where we are in the spacecraft and
I think that those are reasonable levels, the 22 levels that
I was talking to you about yesterday right after lunch - I
mean that is really super quiet - so I think that we got it
running correctly but to do that we couldn't use the procedures
on the checklist and so we'll go ahead and gather the data
based on the way we found how to get these readings and put
them on a tape for you and we can discuss after the flight
what our problem was with this thing.

CC We copy that, Pete.

SC Okay, that's in work right now. We're
still rejuvenging stowage and so forth.

CC Skylab, Houston. LOS in one minute.
Goldstone AOS at 15:53.

SC Okay, Houston. Thank you. We may not
acknowledge all these calls, but it's good to have them.

CC No problem.

SL-11 MC383/2
Time: 10:41 CDT
6/1/73

PAO This is Skylab Control; 15:50 Greenwich
mean time, slight gap here between Hawaii and Goldstone of
about two minutes. Circuit still live for acquisition at
Goldstone and a stateside pass herking over through the
Oregon coast above the Great Lakes and out again along the
coast of Maine. Toward the end of revolution 259 and the
start of revolution 260; Skylab Control standing by.

END OF TAPE

SL-11 MC384/1
Time: 10:52 CDT
6/1/73

CC
10 minutes.

Skylab, Houston; AOS for approximately

END OF TAPE

SL-II MC385/1
Time: 10:59 CDT
6/1/73

SC Houston, CDR.
CC Go, CDR.
SC Say, I just happen to catch the S009
package open at 1557, approximately 50.
CC We copy that.
SC Maybe that'll give you a little better
hack on where it stands right at the moment.
SC Yeah, my next timing check was 16:12:44.
So it sounds like it's way off.
CC We copy, Pete.
CC CDR, Houston.
SC Yeah.
CC The VTR dump has been completed, and it's
all yours now.
SC What we - we were just talking over
the plans and we'll - we're pretty sure beat you at the
1910 line.
CC Copy.
CC Also you might be interested as an
official release, Skylab III is going to be launched on
July 27.

END OF TAPF

SL-II MC386/1
Time: 11:05 CDT
6/1/73

CC Also, you might be interested - there is an official release that Skylab III is going to be launched on July 27th.

SC Thank you. You're coming up early, huh?

CC That's affirm.

SC Well, one of the things that I want to do today if I can't talk to Al, is I've tried to get on B channel to give thee some words of wisdom about waste management and some other things that we've found out about the experiments in the time line. You know, just where to place some of the trading.

CC We'll be looking for that.

SC Yeah, I got this sound meter working. Don't ask me how. It doesn't make sense, but it's working right.

CC We copy that, Pete. And just to be sure that we get your B message, it would help if you'd give us an approximate time that you put it on after you've completed it.

SC Okay, I sure will. What day of the week is it down there, Bill?

CC It's Friday, all day.

SC Say again.

CC Hey, Paul, that's Friday if you didn't catch it.

SC Oh, okay. You lose track of calendar time. What is this today, the first of June?

CC Yeah, that's affirm. Haven't lost you yet.

SC Okay.

SC I assume - how much more time have we got?

CC Got about 7 more minutes before LOS.

SC Oh, crazy. Okay. Instead of putting it on B channel then - for the EREP training people in the backroom and also for their follow-on crews, floating EREP tapes is a piece of cake. That tape kind of tends to stick to itself, which makes it very handy. Pete loaded two - I unloaded one. I took his job away from him yesterday just to see what it was like. It's no sweat. The VTS focus is good, very good - no adjustments made to that. And outside of those HALF lights and the lack of some READY lights, everything has been going good in EREP.

CC Copy that, Paul. Thank you.

CC LOS in approximately 45 seconds. We'll have you again at Ascension at 16:20.

SC Roger.

CC Also, we would like for you to put the potable water heater to OFF, verify that it's OFF on panel 2.

SL-II MC386/2
Time: 11:05 CDT
6/1/73

SC
OFF - OFF.

Okay. That's the potable water heaters

CC
affirmative. No rush on that.

That's when you're in the CSM. That's

PAO
This is Skylab Control. Loss of signal through the Bermuda Tracking Station. Five minutes to Ascension. At 19:10 Zulu, which is about 2:10 central daylight time, the crew will have capability for live television. I don't know what they have planned. Probably learn as they televise the picture down from Skylab, unless they make some further mention of it. At 16:15 - 5 minutes to Ascension Island Tracking Station, this is Skylab Control.

END OF TAPE

SL-II MC387/1

Time: 11:19 CDT

6/1/73

PAO This is Skylab Control, 16:19 Greenwich mean time. About 50 seconds out from Ascension Island tracking station as the Skylab spacestation will pass almost directly overhead at Ascension. It's almost a 11 minute pass. Elevation angle 81 degrees. 81.9 which is about 8 degrees from being directly overhead. At 11:45 a.m. Central daylight time, Mr. John Disher, who is Deputy Director of the Skylab program, NASA headquarters, will meet informally with newsmen in the small briefing room at the Houston News Center. This will not be a press conference as such but merely a discussion regarding the earlier scheduling of Skylab III announced today. This will not be on the broadcast circuit and can be heard - The QA session will only be in the briefing room. Standing by for the Ascension pass, Skylab Control at 16:20.

CC Skylab LOS in 1 minute. AOS Carnarvon 16:53.

SC Okay.

SC Okay. (garble) to the people. Whoever is interested in this, we sure are glad we came with this big Earth Glider we got. If we'd come with that little map we were originally going to, we wouldn't be able to see anything. It's been the most used single piece of gear onboard.

CC We copy that.

PAO This is Skylab Control. Had loss of signal through the Ascension Island tracking station. Next station coming up 21 minutes to Carnarvon, Australia. Repeat, of the advisory to newsmen in the Houston area. John Disher, Deputy Director Skylab Program, NASA headquarters, will meet informally with newsmen for question and answer session on rescheduling the Skylab III to an earlier date. Now July 27 is the target date. This Q&A session will now be on the broadcast line. Will be in the small briefing room, Houston News Center. At 16:32 Greenwich mean time, and 21 minutes to Carnarvon, Skylab Control.

END OF TAPE

SL-II MC388/1

Time: 11:45 CDT
6/1/73

PAO This is Skylab Control; 16:45 Zulu;
in response to a few requests the John Disher question and
answer session with newsmen at the Houston News Center will
be carried on the release circuit. Air to ground from Skylab
on the upcoming passes over Carnarvon, Guam, stateside will
be recorded for delayed playback at the conclusion of the
Disher meeting with newsmen. 16:46 Greenwich mean time,
Skylab Control out.

END OF TAPE

SL-II MC389/1
Time: 12:26 CDT
6/1/73

PAO This is Skylab Control, 17:26 Greenwich mean time. Five minutes and a half away from acquisition at Goldstone for an fairly solid stateside pass. Hitting all stateside stations, Goldstone, Texas, MILA, Bermuda for a fairly long period. We have 3 minutes of recorded air ground taken during the Carnarvon and Guam pass, delayed until now because of the mini press conference with Skylab Deputy Program Manager, Program Director, John Disher. We'll play back that tape at this time and go live for the stateside pass.

CC Skylab, Houston, AOS for 9 minutes.

SC Roger Houston.

CC Skylab, LOS in 1 minute. Guam AOS at

17:08. The tape, audio tape, will be dumped at Guam at
17:09.

SC We read you, Bill.

SC Still there Houston?

CC That's affirm, go.

SC We'd like to know what the lens is that
we presently have on Nikon 03. If you're ready to copy I'll
give you the part number.

CC Go ahead.

SC SEB 331 00 009-301.

CC Okay, we'll get you an answer.

SC Okay. The reason we're asking, it's
not marked. And we're trying to figure what we've got where
here and it doesn't say anywhere what kinds of lens or
focal length.

CC Check. Copy.

CC Skylab, Houston, AOS for 6 minutes.

CC PLT, Houston.

SC Go ahead.

CC Paul, were you able to get that Hasselblad
fixed yesterday?

SC Well we gave a status - I forget where,
whether it was live or on tape. There's nothing wrong with the
camera. The magazine is malfunctioning. The indicator is red.
We tried it one time on the other camera and it would not ad-
vance, therefore we have stowed that magazine. The configuration
now is we have got magazines (garble).

SC That's Pete repressurizing the (garble)
airlock in the background. We've got magazine - Wait a minute.
CX05 on the Hasselblad 02.

CC We copy, and thank you.

SC Also on the Hasselblad - that magazine
caused it to blow two fuses in this camera. We're down to

SL-II MC389/2
Time: 12:26 CDT
6/1/73

two cameras and two fuses now.

CC Copy.

CC Skylab, Houston. We'll be LOS in 4 or
5 seconds, AOS Goldstone 17:32.

SC Roger.

CC Paul, we're about to go LOS but we think
that that lens you asked about is a 55 millimeter, 5,5 milli-
meter.

PAO This is Skylab Control, 17:30 Greenwich
mean time. That completes the playback of the delayed audio
tape recorded through Carnarvon and Guam during the press
conference. The worbler just went off here in the control
room. Alerting flight controllers to the 2 minute mark for
acquisition coming up on Goldstone, crossing the coast about
the California, Oregon border, arcing down about Cape Hatterus,
coming out on the Atlantic Coast around Cape Hatterus. Stand
by for air to ground over the states. At 17:31, Skylab Control.

END OF TAPE

SL-II MC390/1
Time: 12:32 CDT
6/1/73

CC Skylab, Houston. AOS for 19 minutes.
SC Nineteen minutes. Holy cats!
CC And when you have time to copy, we have
one message for the S009 package.
SC Go ahead, Houston.
CC On a - on S009, the set time should be
20:52:15.
SC Okay. Got it.
CC Theta adjust, minus 2. Period adjust,
300. And be advised that this is a maximum capability. It's
coming up 52 seconds early, per rev, and this will only allow
us to adjust 17 seconds out of it, but will allow us to see
what we're doing.
SC Okay.
CC We'd like a MARK when the package is
initiated. And when you set the time at some time tomorrow,
we'll do another check on it to see how much this affects it.
SC Okay, you're can to assume it'll be
initiated within 1 second of on time unless we tell you other-
wise.
CC Copy.
SC Joe, I want to ask you something more
about those lenses. Let me get them first. I'll be right back.
CC Okay.
SC The reason we asked you about that one
lens, Bill, is because even though it doesn't look very much
like a 55 millimeter, it's got a different part number. The
55 millimeter which is so marked which I pulled out this
morning, a Nikon 01, has the same part number except - well,
where the other was 009, the 55 millimeter has 773. We just
want to make sure that some way we don't have a UV lens on
this camera; that's the main concern.
CC Okay, we copy that.
SC If it will help any, Bill, that lens
we're questioning is the one that was launched with us in
the command module.
CC Yeah, that's part of the problem.
SC Oh. That's what we figured, because it
showed the lens was deleted in ours - at least the UV lens was,
and we're not sure what this is because it's not marked, and
every other lens we've seen before has had markings on it.
CC Stop it, Pete.
CC PLT, Houston.
SC Go ahead.
CC That is a 55 millimeter, and it ap-
parently differs only slightly in configuration and part
number, but nevertheless is a 55 millimeter - a standard
by the way, not a UV.

END OF TAPE

SL-II MC-391/1
Time: 12:44 CDT
6/1/73

CC LOS and 45 seconds. Ascension at 15 -
correction: Ascension at 18:00.

SC Roger, Houston. I'll put the results of
the CO2 monitor test on channel B.

CC Copy.

PAO This is Skylab Control. We've had loss
of signal through the Bermuda Tracking Station. The end of a
very silent stateside pass, as far as air-to-ground communica-
tions are concerned. Eight minutes to Ascension Island. Very
brief pass by Ascension. Only 3-1/2 degrees elevation angle
off their horizon to the west of Ascension. And then Carnarvon
in 38 minutes from now. Currently, Skylab space station in an
orbit 232.8 nautical miles at perigee. Orbital period, 1 hour
33 minutes 14 seconds. And apogee, 240.5. Somewhat out of order
in delivery there, but the display escaped me for a while.
Temperatures still hanging in around 79 degrees average though-
out the workshop. And at last reading on the batteries, they
were standing at 68.5 percent total capacity on their state of
charge. Six minutes to Ascension. At 17:54 Greenwich mean
time, Skylab Control.

END OF TAPE

SL-II MC392/1
Time: 13:00 CDT
6/1/73

PAO This is Skylab Control; 17:59 Greenwich mean time. Less than a minute now away from acquisition at Ascension Island Tracking Station for the final pass over this station on a small island in the South Atlantic. Final pass of the day. Five minutes duration across one edge of this station's coverage. There may not be a call either direction, from CAP COM or the crew. We'll stand by live with the circuit, just in case. 18:00 Greenwich mean time. Skylab Control standing by.

CC Skylab, Houston. AOS for 5 minutes.

SC It's a heck of a day off; I'm washing windows.

CC Should be some way around that.

SC What'd I tell you. When we do get a chance to look out the window, we're all there, and consequently they get a little crummy.

CC You seeing much, Paul?

SC Yeah, when we have the time, you can really see. It's amazing for this altitude. It surprises me how much you can really see the curvature of the Earth. We've got - well, as we've mentioned before, we can see from, as we come over, about through the northern part of the east coast of the United States clear up into Canada and clear down to the Keys.

SC We should've got some good pictures of Montana through into about Chicago on that last pass.

CC Good.

SC I have a question for you, Houston.

CC Go ahead.

SC There's been nary a mention of the high intensity lights, and I presume that we either for power reasons and we haven't been up there. But we're wondering what your thoughts are on using them for a little bit maybe under TV. We - we do have a lighting problem trying to shine the TV up into the dome. Any help would help. Do you think you could give us an answer to that in a little while?

CC That's affirm. We'll get right back, Pete.

SC Thank you.

CC Pete, it's perfectly acceptable to use those lights, and we're going LOS here in about a minute. We'll see you at Carnarvon at 18:31.

SC Roger.

PAO Skylab Control. Loss of signal through Ascension. Twenty-three minutes to Carnarvon. Start of revolution 261. Crew reported good visibility across the northern

SL-II MC392/2
Time: 13:00 CDT
6/1/73

part of the United States, out through the wardroom picture window, which at this time they're cleaning up. Doing a little window washing. At 18:07 Zulu, returning in 23 minutes for Carnarvon, Skylab Control.

END OF TAPE

SL-II MC393/1
Time: 13:30 CDT
6/1/73

PAO This is Skylab Control; 18:30 Greenwich mean time about 50 seconds now away from acquisition at the Carnarvon-Australia tracking station. Slight gap from Carnarvon on over to Guam. We do have acquisition at Carnarvon, standing by, live air-ground.

CC Skylab Houston through Carnarvon for about 10 minutes.

CC Skylab, Houston. We'd like to ask you a couple questions about that science beam at your convenience during this pass.

SC Okay, Houston. Pete will be right with you.

CC Okay.

PAO Deke Slayton sitting in the CAP COM console.

CC Okay, Pete this is Deke I'm sort of the middle man between you and Rusty - he's over at Marshall trying to work some procedures on this thing and he has a couple of questions and then we'd also like to get some comments from you about anything that you've been thinking about on the subject or something you'd like to have him try.

SC Okay, go ahead.

CC Okay, as a starter we'd like to know if there's any daylight anywhere between that strap and the beam, we understand that it's pretty solidly attached at the end but how about back down the side towards the surface of the station?

SC Oh, no. That's not true. It's not that tightly wrapped around it, Deke. It is at the end but out at the end, Paul got the little tool that had the two hook planks and which we changed out from being sharp hook points to dull hook points, he got that tool underneath the strap and tried to pull it off and it was by doing that that we determined that the strap had, in fact, somewhere along there punctured into the SAS beam skin. So I know that you could get a pry bar of reasonable thickness underneath it anywhere along the top part of the SAS beam to pry it off. Now out at the side - along the side of the SAS beam it's bowed out.

CC Rog, understand. Rusty wanted to know how close would you guess to the beam, how much gap have you got there?

SC Oh, we had at least a half an inch down at the far end which is what we were trying to get at. He got the whole thing hooked under there.

CC Rog, okay.

SC I'd say a half to three-quarters of an inch.

SL-II MC393/2
Time: 13:30 CDT
6/1/73

CC Okay, good enough. And secondly, is there any - can you tell whether the strap is pulling the micrometeoroid shield itself up against the bottom of the beam, in other words is it kind of acting as a gap to the bottom of the beam? Is that apparent?

SC Yes, that is apparent and that probably is one of the reasons you're getting the funny readings on the SAS, on the 1, 2, 3 SAS panel angles because it is holding the middle one, I think, up in the beam rather than letting it out against the side of the vehicle.

CC Rog.

SC Deke, an indication of how much space there is between that strap and the top of the beam fairing is that that two prong tool we flew - I'd estimate that I could stick it in under about a quarter of the length of the prong, a fifth to a quarter of the length.

SC Go ahead, Houston.

CC Okay, one more question. Guess on the distance where it's bowed out between the bow and the beam itself - along the side we're talking about.

SC We're discussing it, just a second.

SC I'm going to guess 2 to 3 inches, Deke, at the widest point.

CC Rog, copy.

SC See I had a little better, different angle view on it than Paul today. He doesn't think there's much along the side. I think there's 2 to 3 inches because there's a lot of - it's been ripped off parallel to the SAS wing strap or angle iron; whatever it is was ripped off longitudinally and it's wrapped around the thing and so there's some jagged stuff around the base pulling the meteoroid shield up around the side of the SAS panel on it. The strap is the thing that's pulling it.

CC Rog, copy. And also how far down the beam do you have to go from the strap before there is any clearance between the beam and meteoroid shield itself?

SC The beam and the meteoroid shield, well now, down at the bottom end that solar panel is completely free. It's out resting along the side of the vehicle. So you've got to go somewhere down to - no further than the edge of that - somewhere along that panel 2 is where that meteoroid shield ends and it's also - isn't that what you're asking how far down the meteoroid shield runs underneath the beam.

CC Yeah, I think that's what he wants to know. That's my interpretation. Stand by a second.

SC I think what he wants, Deke, is where does the meteoroid shield start coming away from the beam

SL-II MC393/3
Time: 13:30 CDT
6/1/73

fairing where it's held up by the strap, is that right?
CC Roger, that's affirmative. We're trying to figure out where you could get a handhold in that area, primarily. Did you copy that?

SC Yeah, we're talking about it.

CC Okay.

SC Well, we're saying no more than 3 feet either side of the strap.

CC Okay, got you and we've got about 2 minutes to go here. Do you have any suggestions or things you'd like to have us try?

SC Well, if you can look at the meteoroid shield itself and figure out if there is anything - I couldn't see any jagged metal underneath the SAS beam, but the only thing that bothers me is that if we work on this strap which we weren't expecting to find and we pull that off and we find out something else is holding it underneath, however, if something else is holding it underneath you've got a chance of flying the vehicle around down to the end and doing the same thing we did, which is pulling from the long end.

CC Rog. And I think we've got some techniques being worked probably to pull that thing up. Anyway once that strap is loose, we can put - by Rusty's guess as I remember now 300 pounds load on that thing so if that's the case we should be able to fix that.

SC Okay. Paul's got something for you.

CC Okay. We'll keep working the problem down here and keep you advised. You guys doing great work. Hope you're having a nice day.

SC Well, we're taking it easy and just really cleaning house which we needed to do with clean stowage and getting cameras squared away - we really hadn't had a chance to do much of that. I think we can show you the running around the water rings - we worked out the TV so it's pretty - should be pretty fair TV. And I have the switch in my hand which I haven't broken out yet but I don't know what's going to happen with it.

CC Sounds exciting. When you have another spare moment you might pull out that wire bone saw that's Rusty's favorite tool and try it on something around there. You'd be surprised how well that beauty works. And I guess that's still his favorite choice to solve your problem.

SC Okay, we'll do that. We also talked about the possibility of us putting the suit on inside the vehicle and seeing how much pressures we can get. Find something around here like a food box, you know, that was about the same width and everything, see how well we could hang on and maneuver it.

CC That'll do. Okay, thanks a lot guys.
See you next station.

SL-II MC393/4
Time: 13:30 CDT
6/1/73

SC
CC
SC

Roger.
In Guam at 44.
Okay.

END OF TAPE

SL-II MC-394/1

Time: 13:41 CDT 08:18:41 GMT
6/1/73

PAO This is Skylab Control. We should have loss of signal about now through Carnarvon. Last Carnarvon pass of the afternoon. And we're about 3 minutes away from acquisition at Guam Island tracking station. During the Carnarvon pass Capcom was relieved for a short period by Deke Slayton, Director of Flight Crew Operations at Johnson Space Center and one of the crew of the 1975 mission, joint mission with the Soviet Union, Apollo-Soyuz Test Project. Deke and Pete Conrad discussed some of the work that Rusty Schweickart, backup commander is doing at Marshall Space Flight Center in the water immersion facility at that center on ways to pry loose the piece of aluminum angle that appears to have locked down the solar array system beam. Had several questions from Rusty which were passed up to the crew on spacing of the piece of angle along the side of the beam, how much debris appears to be underneath the beam that might interfere, once the beam is freed. About a minute and a half now from Guam Island. At 18:43 Greenwich mean time, standing by for the upcoming Guam pass, Skylab Control.

CC Skylab, Houston. AOS 10 minutes.

CDR Houston, CDR.

CC Go, CDR.

CDR Roger, We'll be with you on the TV

19:10, right?

CC That's affirm.

CDR (Garble)

CC Goodo.

CC Roger there. I'm gonna be off.

CDR Houston, you there?

CC Go ahead, Skylab.

CDR I got a question for you. What are the thermal effects of leaving the STS window covers open? Either all of them or just the shady side or just the sunny side?

CC Okay, we'll try to get you an answer.

CDR Okay.

CDR And how does our thermal versus electrical picture in the workshop look? Which is a very complicated way to ask. Do you still want us to leave that portable fan in the dome hatch blowing workshop air, toward the OWS heat exchangers?

CC Okay, I'll find that one out too.

CDR Thank you.

CDR And Bill, you still owe me an answer on which water tank Skylab 3 is gonna start up on, right?

CC That's affirmative. We're gonna get this one up to you.

SL-II MC-394/2

Time: 13:41 CDT 08:18:41 GMT

6/1/73

CDR Okay. Good enough.

CDR I just wanted to make sure it hadn't
dropped down in a crack some place.

CC Pete, Skylab 3 is going to start using
water tank 10, and today calls only for sampling. Sampling
only of 13, 6, and 10.

CDR Oh, okay. You want a sampling only.
I read, I'm going to read it again. I'll read only (garble)
I've read the procedure. It calls for sampling and, if
required, addition of iodine. But I'll sample all and
report. In which case, I don't care which tank Skylab 3
starts on.

CC That's just sampling only, Pete.

CC And we're going LOS in about 20 seconds,
and we'll be looking for you at Goldstone at 19:09.

PAO This is Skylab Control. 18:54 Greenwich
mean time. Fourteen minutes to the upcoming Stateside
pass. Goldstone acquisition at 19:09 Greenwich mean time.
At which time the crew will turn on the television camera
for a stateside television pass, lasting approximately
17 minutes. Commented that they had recorded on the video
tape recorder some of their activities, including a slinky
toy activity, with a slinky toy, which is a large spring-
like device. At 18:55, back again in 13 minutes, Skylab
Control.

END OF TAPE

SL-II MC-402/2

Time: 17:15 CD: 08:22:15 GMT

6/1/73

and agriculture. The pass, utilizing the various Earth Resources experiment package sensors, will cover a path of about 2400 nautical miles. We anticipate AOS in a brief pass over Hawaii. We will pick up any air to ground now.

CC Skylab, Houston. AOS for 2 minutes.

SPT Roger, the CDR has finished Command

Module 7-day housekeeping stuff.

CC We copy.

CC Skylab, Houston. We have a question

on some medical data.

SPT Okay, Bill, go ahead.

CC On the evening report there is a urine water and BHMD measurement space, and how much would it impact you to record that as soon as possible after you do it in the morning. The reason for asking is that by the time it gets turned around here and worked it's impossible to get it on the report that comes back up to you the following day.

SPT Understand, but that's okay, Bill, because we've got that data in the raw on board. I think the impact would be more than the information would be worth to us.

CC Joe, I'm sorry, I didn't quite follow that.

SPT I say we'd rather not do it, because we have the information on board in the raw form. You know we've got our weight at 6.77342, which is okay. We can look it up on your curve. So let's not.

SPT Are you still there, Bill.

CC Yeah, I'm sorry. We've got a confusion factor going. I guess our request was could you put that on in the morning, rather than waiting and putting it on B Channel later in the day? Could you put it on B Channel earlier in the day? That's the question.

SPT Yes, and your reason was so that you could get it back to us in the next day's report. And I'm saying, it's okay, we don't need it in the next day's report. And we'd rather do it as part of the evening report, like we're doing it.

CC Copy.

SPT Have you got some other reason for wanting it sooner?

CC Yes, getting it back was one thing. It's pretty impossible to get it back. The other thing, of course, everybody wants to see it as soon as possible.

PAO This is Skylab Control at 22 hours and

26 minutes -

SL-II MC-402/3

Time: 17:15 CDT 08:22:15 GMT
6/1/73

CC

We'll see you at Vanguard at 22:48.

SPT

Roger.

PAO

This is Skylab Control at GMT 22 hours and 26 minutes. We have loss of signal at the Hawaii tracking station. Tomorrow's EREP pass, the second one scheduled for Skylab, will be along track 63, and will be a 10 minute pass, beginning, as we said earlier, from San Francisco, west of to San Francisco to Mexico City. This is Skylab Control at 22 hours at 26 minutes Greenwich mean time.

END OF TAPE

SL-II MC-403/1

Time: 17:46 CDT 8:22:46 GMT

6/1/73

PAO This is Skylab Control. Greenwich mean time 22 hours 45 minutes. We expect to have acquisition of signal over the Vanguard tracking station. The crew is still continuing to perform various housekeeping tasks on their day off. We will replay at 6:00 p.m. central daylight time the TV from the ATM which runs approximately 11 minutes in duration, and at that same time, we will rerun the 17 minute Skylab TV from the workshop with Commander Conrad, Science Pilot Kerwin, and Pilot Weitz. This will be rerun at 6:00 p.m. central daylight time. We will leave the line up now for any air to ground coming over Vanguard.

CC Skylab Houston. AOS for 10 minutes.

CDR Roger Houston.

CC And Skylab, be advised we are updating some rate gyro drift compensations. Also the world is waiting with bated breath to know how Saturday night on Skylab is.

END OF TAPE

SL-II MC-404/1
Time: 17:54 CDT 8:22:54 GMT
6/1/73

CC Skylab LOS in 1 minute. AOS 23:56.
PLT Well, good bye.
PAO This is Skylab Control. Greenwich
mean time 22 hours 58 minutes. We have had loss of signal
over the Vanguard tracking station. Next scheduled pass is
over Hawaii in 57 minutes from now. This is GMT 22:59.

END OF TAPE

SL-II MC-405/1

Time: 18:38 CDT 8:28:38 GMT

6/1/73

PAO This is Skylab Control. Greenwich
mean time 23 hours and 38 minutes. Flight Director Don
Puddy and EREP Officer Dick Koos are on their way to the
Building 1 News Room for a change of shift briefing scheduled
to start at approximately 6:45. Again Flight Director Don
Puddy and Dick Koos, EREP Officer en route to the Building 1
News Room for a change of shift briefing at 6:45. This is
Skylab Control.

END OF TAPE

SL-II MC-406/1

Time: 19:11 CDT 9:00:11 GMT
6/1/73

PAO This is Skylab Control at 00:11 minutes Greenwich mean time. We have just concluded a pass over the Hawaii tracking station, during which time Paul Weitz discussed several items with Capcom Richard Truly. We'll bring the line up now for that brief conversation.

CC Skylab Houston. We're AOS in Hawaii for the next 9 minutes.

PLT Hi Richard. How was your party last night?

CC Hey, it was just super. It sounds like you guys have had a good day up there. I saw the replays of the TV show. You really can run good.

PLT Well, it takes a little practice.

CC Hey Paul, while I've got you on the line, there is one question we need answered. We're uplinking the evenings questions on this pass so you can take a look at them. But there is one of them we need an answer on in order that we can do some EREP flight planning for this evening. And it is that, did you have any better luck on the on the S192 alignment on that EREP pass you did than you did the day before when we were doing EREP checkout? Over.

PLT Negative. I got a couple of more percent on physical alignment but the normal was just the same. It just sat there and blah at 12 percent, I cranked the knobs in and out. I didn't touch the focus. I've heard it really about such invisable focus again but especially those (garble).

CC Roger understand. Thank you much.

CC And Skylab Houston. I wonder if one of you guys could confirm that in the command module the portable water heater is off, off?

PLT Yeah, I turned that off about 3 hours ago, Dick. It surprised me that it has been on.

CC Okay. Thank you much.

PLT If you will look into your currents even on our day off, we've been hustling pretty good on our day off, but we're behind. So we just turned on the water heater, oh, I guess about a half hour or so.

CC Roger understand. Thank you much.

CC Skylab Houston. We've got about 30 seconds to LOS. We're going to see you at the Vanguard at 00:27. That's the pass that we've got set aside for the evening status report if you have time. Also we'll be dumping the data recorder at that pass. And we've uplinked tomorrow's flight plans to you. So, if you have any positive comments against tomorrow's flight plan, we'd be glad to entertain them there at Vanguard. So see you then.

SL-II MC-406/2

Time: 19:11 CDT 9:00:11 GMT

6/1/73

CDR Okay, we've been smoking it over, it
looks pretty good so far. We might change - -
PAO Skylab Control. Astronaut Paul Weitz's
comment to Dick Truly how was the party last night. That
was in reference to the manner in which Astronaut Truly
signed off with the crew saying he was going to a party,
as the crew was going to a party last night. This is
Skylab Control at 00:14 minutes Greenwich mean time. We
will have AOS at the Vanguard tracking station in approx-
imately 12 minutes.

END OF TAPE

SL-11 MC-407/1

Time: 19:25 CDT 09:00:25 GMT
6/1/73

PAO This is Skylab Control at 00:25 minutes Greenwich mean time. Acquisition over the Vanguard tracking station is anticipated momentarily as Skylab space station goes down around the horn of South America to start it's 265th revolution.

CC Skylab, Houston. We're AOS at Hawaii for the next 8 minutes.

CDR Roger, Houston. Just a second and we'll give you the evening status report.

CC Okay, good.

CDR The other guys are juggling - the CDR ate everything.

CC Okay.

CDR Got the PLT next. The PLT didn't eat the biscuits for lunch. Macaroni for dinner, and only half the bread, and did not drink the coffee with sugar for snackee.

CC Roger.

CDR And only half of his coffee for breakfast.

CC Rog.

CDR And he took all my salt.

CC Roger.

CDR The SPT didn't have his coffee with sugar with breakfast. Nor his second tea with dinner, nor his coffee with sugar for his snackee.

CC Roger.

PLT Coffee isn't going over too big in the sub-tropical climate, as you can see.

CC You know, I noticed that.

CDR We took no 35 millimeter pictures today. And we took - took 24 Hasselblad pictures today.

CC Roger.

CDR We didn't (laughter) deviate from the flight plan today, (garble).

CC Rog. Copy.

CDR And we did - we did did do some stowage today that you might be interested in. We took down the T027 rods, which were only in two pieces. They are neatly stashed by the locker that holds the fireman's pole, all back in their little bags, in case anybody needs one.

CC Okay.

CDR Okay. And I sent you on B channel the sound meter information for today, and I have stashed that piece of equipment alongside of locker E-623. And then we did the CO2 indicator and all that report of what happened to it is on B channel, and I'll turn it over to the Dr. who worked on his IMSS all day today.

SL-II MC-407/2

Time: 19:25 CDT 09:00:25 GMT

6/1/73

CC Okay.

SPT Good evening.

CC Good evening Doctor.

SPT John, I have some stowage changes for the IMSS. Tell the medical people that I threw out all the bad drugs except for samples which I piled into the bag to take home. They may not get exactly their 10 pills, but they'll be close. And Okay, I moved the intravenous infusion assembly and 1 liter of fluid to W-706. I moved the blood pressure cuff and the stethoscope to the E-610 shelf. And I moved the ophthalmoscope, the odoscope, the hammer and the (garble) the tongue retractor to E-610 Bravo. And you will find the thoryngescope, the tracheotomy kit, the airway and the new adrenalin in wardroom locker 700. That's for easy access. And that's it.

CC Okay, Joe. Copy that. We still got 4 minutes. Go ahead.

SPT I ain't got 4 minutes worth of talk.

CC Okay.

CDR When am I clear to change out the teleprinter paper. What - Can I do it this next pass. How long do we have between passes?

CC INCO says you can change it out anytime, Pete.

CDR Okay, very good. We'll do that. We have fuel cell purge to go in the Command Module, and I've been trying all day to get to B Channel to talk about the flight planning. The basic summa is going to be the big pass flight, either moving big gear or running AJM or EREP, where you get yourself (garble) and go through a checklist. A relatively easy (garble) timeline. It's where you get lots of loose pieces of equipment and lots of little odds and ends that weren't necessarily obvious to us. As I said one example was when I had the task of cleaning the tape recorder plug 2NS009 at the same time, you know, you have to figure out where to put all these little goodies, and I'll tell you something else that's gonna take a little bit longer are these transfers. Working in these lockers, especially the command module lockers, takes a reasonably longer amount of time than it did in 1 g just because of all the (garble) and little blocks, snips, sneezes there, you got to sorta take it all out in advance and move slow. And the basic thing is, if any of these little pads there are (garble) and have a lot of parts to them, if you start to hustle, you just wipe yourself out, because you knock things loose and you just start losing them and then you get frustrated, and you know, you just - It's just going

SL-II MC-407/3

Time: 19:25 CDT 09:00:25 GMT

6/1/73

to take us a little while to timeline these things, especially new items. The ones we've done, I think we have a reasonable handle on them. And I'd like to just kind of review those sort of things on B, that I think are on time and those sort of things that are gonna take a little bit longer or they have a different learning curve.

CC Rog. Understand, Pete, and on the flight plan that we sent you for tomorrow, we're pressing on with detail in that flight plan that you have on board, do you have any specific comments against it?

CDR No, that looks real good and what we'll do, say that's our first step 183 operation, I've got time to go up tonight, smoke it over and see if I can't find some pitfalls in it if there are any. And otherwise, the rest of the stuff ATM goes very smoothly. I think our first EREP went very smoothly as far as staying on the timeline, and getting all the tasks done. It's the little things that have hung us up for some reason, I just have to specifically sit down and pieced it together, and then you can see where we got behind on the timeline and where we were trying to make up.

CC Rog. Understand. Well, we certainly tried to take your comments last night and today to heart, and so if this flight plan tomorrow or the next day doesn't seem to be workable for one reason or another, please don't hesitate to let us know. We're about 45 seconds from LOS at Vanguard. We're going to be back at Hawaii in about an hour at 1:34. That'll be your medical conference. Over.

CDR Okay, very good. And I think also, that the next go-around coming up now, that we've been through a lot of gear. We had trouble with this, moving a lot of gear, so I think we're in better shape now for the next 6 day run.

PAO This is Skylab Control at GMT 00:36 minutes. Skylab space station, we just lost signal over the Vanguard tracking station. Next pass will be over Hawaii in 57 minutes. During the previous discussion Commander Conrad discussed what the crew had for - what the crew had and what they didn't eat in their scheduled meals for the day. He reported that they took 44 frames of Hasselblad film, and no 35 millimeter film for the day. Science Pilot Kerwin reported on unstowing the inflight medical support system, the IMSS, which provides an extensive inflight diagnostic and treatment center for emergency medical care in an outpatient nature. The IMSS consists of three basic groups of equipment. Diagnostic, laboratory and therapeutic. In further discussions

SL-II MC-407-4

Time: 19:25 CDT 09:00:25 GMT

6/1/73

Commander Conrad discussed the problems they had been having in transferring little items and stowing them away. However he concluded the conversation by saying they were in better shape for the next 6 day run. Our next acquisition will be over Hawaii in 56 minutes. This is Skylab Control. Greenwich mean time 00:38 minutes.

END OF TAPE

SL-II MC-408/1

Time: 20:33 CDT 9:01:33 GMT
6/1/73

PAO This is Skylab Control. Greenwich mean time 1 hour 33 minutes. Skylab space station will be entering acquisition of the Hawaii tracking station momentarily. We'll bring up the line, in the event there is any air to ground.

PAO This is Skylab Control at Greenwich mean time 1 hour 42 minutes. We have had loss of signal at the Hawaii tracking station. The crew is in their pre-sleep activities getting prepared for bedding down for the night. With the next acquisition over Vanguard in 38, belay that, 22 minutes from now. We'll pull the line down now. This is Skylab Control, 1 hour 42 minutes GMT.

END OF TAPE

SL-II MC-409/1

Time: 21:04 CDT 9:02:04 GMT
6/1/73

PAO This is Skylab Control. Greenwich mean time 2 hours 4 minutes. Skylab space station is approaching Vanguard tracking station. We should have acquisition momentarily. We'll wait for air to ground communications.

CC Skylab Houston. We're AOS at Vanguard for about 10 minutes. Over.

CDR Roger Houston. And I have one thing to add to the photo report for tonight. Are you ready to copy?

CC Yes sir, go ahead.

CDR The item 4874 Charlie I think this morning. Anyhow, I was getting out of bed. And you can add that on to what was left of the magazine that we did 4 Bravo with last night. I got them both in on 1 magazine.

CC Roger Pete. Thank you very much.

CDR Okay that is it. We've had one through shower, one into shower and one waiting for the shower.

CC Sounds fine. What does the one that went through it think of that shower?

CDR Clean and sweet and smelling good right now that's Commander Weitz tested out the first shower. It took a fair amount longer than time wise as you might expect. There was a (garble) term there. And we've got Joe in there right now and we're timing him to see how long it takes. It takes quite a while to pump the water back up again.

CC Roger understand.

CC Say Pete, I have one more comment that I was asked to pass up to you. And that is on the S183, as a matter of fact, we're watching a replay of you guys picking it off the floor this afternoon during the demonstration. And we were wondering after you did pick it up did you vent it to vacuum? And if you didn't we would appreciate it if before you go to bed if you would. It's the SAL checklist page 4-15. We need you to vent it to vacuum for about 15 minutes and then secure the vacuum hose.

CDR You are very clever. It was started right after we picked it up.

CC Very good.

CDR And I was smoking over the flight plan. And the kind of traps that I told you that I, I am not complaining about this because we haven't done it before. But M151 with S183 is going to require di-intensity lights. And they haven't been rigged yet. So I'll do that tonight. But those are the kind of things that we've run into here that have sort of slowed us down and kept us (garble) power curve. And that can generally talking against today and looking at this

SL-11 MC395/1
Time: 14:07 CDT
6/1/73

PAO This is Skylab Control; 19:07 Greenwich mean time. One minute and 40 seconds away from acquisition at Goldstone and a television pass down across the continental United States, coming in at about the mouth of the Columbia River, exiting about New Orleans and the Gulf of Mexico. Standing by for stateside pass and live television.

CC Skylab, Houston. AOS for about 15 minutes.

SC Okay, let us know when you get the picture.

CC We've got a picture. It's a little snowy

at the moment, but we're waiting for the Peter, Paul, and Joe show.

SC Are you looking down into the dome or looking up - looking down toward the experiment compartment or looking up toward the dome?

CC Looking down on the experiments.

SC Okay.

CC It's good now.

SC (Music) (Laughter).

SC Okay, we're going to - Joe is going to

give you a little demonstration of I don't know what - it's something extemporaneous. You'll notice, however, that we've been asked in the past, "Aren't you afraid of getting stuck in the middle of the workshop?" Well, as you can see from what Pete and Joe are doing - one of the most difficult things to do is to get yourself stable without any rate, either pitch or translation, in the middle of the workshop. He is allegedly demonstrating conservation of everything in that he's a closed system, and whatever he does, he winds up back where he started. Now he's a little conservation of angular momentum. Just by swinging your limbs around, you can change your attitude.

CC You've just advanced physics teaching by 20 years.

SC I'm trying to look up through the - I'm in the wrong place - I should have been some place else. Last night I woke up through the wardroom grid. Okay, Houston, for the climax of our show, we're going to settle some old bets. If we're going to have the Skylab 500, that'll be 500 feet around the dome laundry. Have you got a pretty good picture of the dome now? Do you see about half the lockers?

CC That's affirm. We've got them.

SC Okay. We're ready to roll.

SC Okay, Pete's got a couple of free-style maneuvers here. The difficulty with that one was a 1.6. It's a 2.2. (Laughter) See if I can give them any points for that one. He's going to try it one more time, I think. He doesn't

SL-II MC395/2
Time: 14:07 CDT
6/1/73

know what that one was. That was a new one even on us. That's it. Anything in the forward or dome A that you guys wanted to see? Can we show you anything?

CC Storey is wondering if you've gotten around to a handball game yet.

SC No, not yet. We haven't taken to throwing balls around. We've been doing that while we're waiting for one guy to finish shaving in the evening.

END OF TAPE

SL-11 MC-396/1

Time: 14:14 CDT 08:19:14 GMT

6/1/73

CC Not having a handball game yet.

SC No, not yet. We haven't taken to throwing balls around. We've been doing that while we're waiting for one guy to finish shaving in the evening. We haven't had time to try the balls or the darts or any of that other stuff.

CC Hey, that's beyond belief. We've just had offers from Ringling Brothers, Barnum and Bailey and Cubric both, that you can bring that show down to Earth and do it.

CDR We wish we could, I'll tell you.

CDR I'll tell you one thing, Dick, that we do get around very well, but our serious problem is when you're handling a lot of little pieces of gear, and just sitting there thinking about what you're going to do with them, Joe is showing you a couple of other things, but we can handle our body real well. Everybodies adapted super well, We all got to talking about what's going to happen to us when we get back to Earth, because the first thing we're going to do is dive outside of our bed in the morning and crash on the floor.

CC (laughter) We copy.

CC Hey, Pete, Deke was sitting here saying he thinks he gonna include crash helmets on Skylab 3.

CDR No sweat.

CC How about handling heavy objects. Boxes and that sort of thing? Does that give you much problem.

CDR Well you actually use (garble) Well, we'll show you (garble). What you miss most is having both hands free, but well, we'll see what we can find.

CDR It's not hard to handle a heavy box. It's the little pieces that when you got a lot of little pieces is where you get the trouble.

CC That's what I surmised.

CDR Okay, we're coming out with the S183 tier. We're on the upper camera.

CC Okay, we - yeah, we got you back now.

CDR Okay.

CDR Okay, here they are with it.

PLT As long as you recognize your limitations when the (Garbled) or anything else, Bill. You get in trouble as long as you don't exceed them. Then as long as you take it easy, it's really no sweat.

CC We're suitably impressed.

CDR Also, with a little item, we keep losing things, but they keep showing on our air ducts. If we loose them down in the workshop, they eventually bang around

SL-II MC-396/2

Time: 14:14 CDT 08:19:14

6/1/73

and get free. It may take a day or two, but they wind up on the air screen after a while.

CC That's what we gathered from Paul yesterday.

CDR Anything else you'd like to see?

CC No, we're just sitting here goggle eyed the whole lot. Just leave it on, I think that's show enough, just watching you move.

CC Hey, have you gotten a 4-1/2 forward gainer yet?

CDR Joe's the only guy you gotta watch. He moves at the speed of light.

PLT Sorry about that. (laughter) The Doctor took off, but unfortunately had the TV power cable wrapped around his ankle.

CC (laughter) Okay. Hey, the people on the ground can't see some variation in the vehicle axis when you push off.

PLT They really can't? Is that right?

CC That's affirm. Bet you never thought you'd really fly without wings, did you?

PLT We had three responses here. One of them was incredible. The other two I'll have to let you figure out.

CC Okay. That was about 0.2 of a degree in X when you were running that foot race.

CC Hey, Joe, did it turn out that you needed the straps in the chair or not?

PLT Yes, we did, Bill.

CC Copy. Do they hold you pretty firmly.

SPT No they couldn't, they only hold you well if you push up against them real hard, but so far, we haven't had any difficulty. One wishes in retrospect that those straps and also the straps on the M131 chair, and also the strap in the fecal compartment had positive buckles on them, like the ATM chair, but (garble) they're working.

CC That's the way they were originally designed.

SPT Yes.

SPT Incidentally, I don't know whether we said this before, but we owe our greatest appreciation and awe to the people who designed the waste management system. It's worked much better than anticipated and it's been essentially trouble free and not terribly time consuming.

CC That is incredible.

CDR I think the other thing is we're all amazed at how rapidly we adapted --

END OF TAPE

SL-II MC-397/1

Time: 14:27 CDT 8:19:24 GMT
6/1/73

PLT

That is incredible.

CDR

I think the other thing is we're all amazed at how rapidly we adapted. No one had the least glimmer of being motion sick or anything else. As you can see, we're spinning up the world up here, it doesn't bother us any and you have a blast as far as moving around.

CC

That is the thing that we've been pretty amazed at. We gathered that that was what had happened. Musgrave is down here absolutely green with envy.

CDR

Well I'll tell you one thing. The four Conrad boys would sure have a blast up here, along with every kid in the United States if they could ever get inside it. It beats Disneyland and everything else.

CC

Hey, how many times have you used the

IMSS Joe?

CDR

He's just setting it up today. He was just breaking out all the gear this morning. As a matter of fact he stopped in the middle of it to do this.

CC

Copy.

CDR

Rog, I think we're going to knock it off now. We're going to go eat and go back to work.

CC

Okay, thank you very much Pete. That ought to be good for at least an Emmy.

CDR

Okay, we enjoyed it.

CC

And we'll see you at Vanguard at about

19:35.

PAO

This is Skylab Control. Loss of signal from the Mila station following a stateside television pass. Perhaps the world's first zero-g ballet, and a Grand Prix race with all three men running around the OWS storage lockers up above the water tanks. And some other whipperdills and gyrations in the space of the workshop dome area. Next station, Vanguard tracking ship in 8 minutes. At 19:26 Greenwich mean time, Skylab Control out.

END OF TAPE

SL-11 MC-398/1
Time: 1445 CDT 8:19:45 GMT
6-1-73

CC Skylab, Houston. AOS for 6 minutes.
CDR Say, Houston. Where were we at 19:30?
Over Brazil?
CC Yes. That's affirmative.
CDR Okay. I've been over there a few times
in Gemini. The - you never could see anything because of
the cloud cover and the jungle. But today we had about
4r jets down and we got some - I was pretty sure it was Brazil.
I think we got some pretty good pictures of the Amazon and
the jungle down there which I know they wanted.
CC Very good.
CC That was a fantastic show that you just
put on. And in answer to the window question, when you're
not using the window they want you to keep the shady side
closed. They also want you to keep that portable fan running.
CDR Okay. Fine. That's no problem. We were
just trying to think what we could do to conserve power.
SC (Music) Mess Call.. Mess call.
CC Hey. I thought you people marched to a
boatswain's pipe.
SC Oh, just wait.
SC You still there, Houston?
CC That's affirmative.
PLT Okay. Joe and Pete and I were just
talking this morning about a couple of discussions we had
years ago when Skylab first came up. One was the so-called
garble walking that you would do in this area here, which
you don't do. You just push off when you translate from
place to place as you have probably have guessed right now.
We also had some discussions about the size and shape of
the openings in the wall, whether they are door-shaped
primarily for l-g work and fabrication. But you know ...
CC Go ahead Paul. We lost you. Skylab
will go AOS in about a minute and 30 seconds. Go Goldstone
AOS at 20:46 and would be interested in hearing your comments
that were broken off there.
CDR Okay. We just had a fire alarm. It's
the first one we've had since the first day we got on board
and it was the OWS heat exchanger, the one that went OFF
before. We just looked in there and it's nothing, it's
just the temperature itself.
CC Copy, Pete.
CDR But I tell you if you'd had that on TV
you'd have seen three guys leave the wardroom like a cannon
been shot.
CC Yeah, that was a pretty abrupt break.
PAO This is Skylab control at GMT 19 hours
and 49 minutes. You heard Commander Conrad mention that

SL-11 MC-398/2

Time: 1445 CDT 8:19:45 GMT

6-1-73

PAO they had another fire alarm similar to the one they had on the first day on board. He mentioned it was the orbital workshop heat exchanger fire alarm went off. There's indications on the ground that this may have been caused as the vehicle passed through the South Atlantic anomaly. This is a region where particular shape of the Earth's magnetic field causes the Van Allen radiation belt to get unusually close to the Earth. And the spacecraft goes through this periodically on passes through the South Atlantic. Also the - they ran a mess call and this was spotted on the ground by CAPCOM Dr. Bill Thornton who mentioned he thought you people marched to boatswain's pipe. Further discussions had pilot Paul Weitz talking to the ground about the shape of the doors. He said the doors are shaped like they are on the ground. Preferably for fabrication in a 1-g environment. We will have AOS over Goldstone in 55 minutes. This is Skylab control GMT 19 hours and 51 minutes.

END OF TAPE

SL-II MC-399/1

Time: 15:13 CDT 8:20:13 GMT

6/1/73

PAO This is SKylab Control. A press briefing with Dr. Rocco Petrone, Director of the NASA Marshall Space Flight Center, Huntsville, Alabama, will begin momentarily in briefing room in Building 1. Dr. Rocco Petrone, Director of the NASA Marshall Space Flight Center will hold a press briefing, beginning momentarily in Building 1 News Room.

END OF TAPE

SL-II MC-400/1

Time: 16:07 CDT 8:21:07 GMT
6/1/73

PAO This is Skylab Control. Greenwich mean time 21 hours 7 minutes. Skylab space station just completed a pass through the states, and we'll play that tape back. General summary of the discussion, Commander Pete Conrad requested the ground if they could turn down the gain on the fire alarm, which has again gone off in the orbital workshop heat exchanger. The ground reaffirmed their earlier comments that they believe that this is caused as the spacecraft passes through the South Atlantic Anomaly. Pilot Weitz, Pilot Paul Weitz should have completed on this revolution the first shower in space. The shower is located outside the wardroom door. The shower enclosure is 3 feet in diameter. And the shower water comes from the orbital workshop subsystem. And 6 pounds of water is used for each shower for each man. The 55 minute block of time is allocated each week for a crewman to take a shower. Science Pilot Joseph Kerwin is scheduled on the flight plan to be the next crew member to take a shower then this will be followed by Commander Pete Conrad. We have air to ground now and we'll pick it up and go into Vanguard in approximately 2 minutes.

CC

Skylab Houston AOS for 16 minutes.

SPT

Roger.

CDR

Say Houston, on that fire sensor, we'd like your permission to cut the gain down on it a little bit. This is the second time it has gone off, and my thought on it is it happens to be the one that's facing out into the heat exchanger tank which is outside the vehicle. Do you suppose there is something that they could light that thing off?

SPT

We thought it might be the South Atlantic Anomaly Houston.

CC

I was just about to pass that up to you. And of course you're GO to crank the gain down on it.

CDR

Very good.

CC

And we have a couple of other messages here. We're get the flight plan up within the next rev. And we have one apology. If you can do message 0733B on the - it's general message 151 power down for tonight, if you can work that into the presleep activities.

CDR

No sweat.

CC

And we would appreciate very much any feedback on this flight plan, any comments as to what you think of it and such.

CDR

Okay.

SPT

Hey Houston, how much do you think we ought to crank this sensor down? It's in 4 now.

SL-II MC-400/2

Time: 16:07 CDT 8:21:07 GMT

6/1/73

CC Standby half.
CDR (garble) Houston, we will work over the flight plan. The problem has been the past not being able to give you any comments. It's usually the first time we've said something. And (garble). And we'll take a look at this one.

CC Copy. We suggest setting the sensor at 3, 3.
And suggest taking it down a step at a time.

CDR Copy.
CC CDR when you set the gain down on that sensor, would you confirm for us that it is sensor 1, sensor 1.

CDR Yes sir it is sensor 1, 392 I believe is the panel, dash 1.

CC Thank you sir.
CDR The one that looks out into the package, not the one that looks into the fan.

CC Copy.
SPT Okay Houston, the S009 was just initiated.

CC Copy.
CDR Houston CDR.
CC Say again Skylab.

CDR All right Houston, this is CDR. And I was doing the 7 day check for the command module. And about 10 lines down on page F4-2 is the systems checklist. It says TV BAT BUS A and B, BAT A and B to CLOSE and I don't believe that's right. They are now open and I think they should remain that way.

CC We'll check it.
CDR Okay Houston. I keep getting called away and I see what you're doing is just checking the BAIS and then pulling the breakers again, forget it.

CC We copy Pete. Skylab, we'll be LOS in about 4 or 5 seconds. We'll have Vanguard AOS at 21:12.

CDR Roger.

END OF TAPE

SL-II MC-401/1

Time: 1613 CDT 8:21:13 GMT

6-1-73

CC Skylab, Houston. AOS for 6 minutes.
SC Roger.
CC CDR, Houston.
CDR Go ahead.
CC When you're in the CSM we want the pressure relief selector on panel 352 placed OFF.
CDR It's been off since we've been up here, Houston. It was the valve that I quized you about a long time ago it's been OFF on the checklist back when we arrived here on day 1 or something and in day 2 and it's been OFF ever since. And it is back OFF.
CC We copy that Pete. Also the main power switch on the VIR should be OFF at your convenience.
CDR Okay.
CDR Hey, Houston, are you still there?
CC That's affirmative. Go.
CDR Okay. The added question on S009. It was the first star and the 4th star that I pulled calibrations on. The first star was ON and the last star was OFF and and the (garble) was OFF. I reported on B Channel.
CC We copy that.
CDR Okay.
CC Pete, that was all that we found on B Channel, but it was garbled. And we couldn't get it all.
CDR I personally don't have it written down anywhere.
CC Copy.
CDR Was that garbled through some fault of ours. Are you having problems with B Channel got any reason other than the music that was screwing it up the way we've been trying to keep that off it.
CC Pete, we've got some problems, but not from your end.
CDR Okay.
CDR Are we identifying the stuff well enough? I think we've been trying to do that also.
CC Pete, as I say, there's no problems from the crew point. We've got good data from the crew. There have been another glitch or two.
CDR Okay.
CC Skylab, we'll be LOS in about 30 seconds.
We'll see you again Hawaii at 22:20.
CDR Okay.

SL-11 MC-401/2
Time:1613 CDT 8:19:45 GMT
6-1-73

PAO This is Skylab control. GMT time 21 hours 20 minutes. We just completed a pass over the Vanguard tracking station. Next acquisition will be over Hawaii in 59 minutes from now. Commander Pete Conrad discussed with the ground the S009 experiment which is the nuclear emulsion experiment. The objective of this is to record cosmic rays flux incidents outside the Earths atmosphere. This experiment is to be performed through the Skylab's first man visit so the astronauts periodically adjust the direction toward which the film surface of the experiment is pointed. To keep the detector pointing toward deep space, away from the Earth. This is Skylab control at GMT is 21 hours 21 minutes.

END OF TAPE

SL-11 MC-402/1

Time: 17:15 CDT 08:22:15 GMT
6/1/73

PAO This is Skylab Control at Greenwich mean time, 22 hours and 15 minutes. Day 8 for the Skylab 2 crew of Commander Pete Conrad, Science Pilot Joseph Kerwin, and Pilot Paul Weitz, was a day off. As they come over the Northwest Pacific on revolution 263, they spent their day like most typical Americans. They slept late, they spent a lot of time looking out the window, looking at the sights, as the world passed under them. The ground earlier in the day passed up some sites for them to watch for today. Included in those were Mount Rushmore, the Yucatan Peninsula, the Yucatan Pyramids, and the Nile Pyramids. Commander Conrad, after looking out the 18 inch window in their wardroom, commented it was a great view. Far more extensive than he had on Gemini. He said they can see all the way from the Northwest Pacific to the Florida Keys. As many holidayers do, the crew took many photographs. In their pass over South America, the crew described the photos of the Amazon Jungle should be fantastic. Later in the day the crew members put on a 14 minute televised track and field event from outer space. The three crew members ran around the dome of the orbital workshop, and performed several somersaults and flips. Although the crew has not reported that this task is being completed, all three were scheduled to take their hot showers today, on their day off. They are scheduled to end their day this evening with a gourmet meal of prime ribs of beef for Commander Conrad and Science Pilot Kerwin, and filet mignon for Pilot Weitz. Intermittent actuation of the fire alarm in the orbital workshop heat exchanger was reported by the crew. However the ground advised the crew this was due to the passage of the vehicle through the South Atlantic Anomaly. Systemwise, systems aboard the Skylab vehicle ranged from 76 degrees on the wardroom compartment to 80 degrees Fahrenheit on the compartment ceiling. Powerwise, Dr Rocco Petrone discussed in detail, at an earlier press conference today, the Skylab power situation, and at this time there is no change, in that number 3 and number 15 charger battery regulator modules are still off line. The current battery charge is at 90 percent for the remaining CBRMs. Tomorrow, day 9 for the crew, they will continue the medical experiments, M092 and M093. Also the crew will monitor the Apollo telescope mount console throughout the day. A second EREP pass is scheduled at mid-day. This pass, which begins 500 nautical miles northwest of San Francisco, will record data over about 20 test sites between San Francisco and Mexico City, Mexico. The EREP sites includes studies and regional planting, oceanography, geology,

SL-11 MC-409/2

Time: 21:04 CDT 9:02:04

6/1/73

flight plan and being able to talk about it very carefully. In the last 6 days that we have worked in activation and a couple of orbital days, we were going from hand to mouth, and we really didn't have time to sit down and really pick out the next days (garble). Now I think tomorrow because I was just sitting here now doing that waiting for a shower. You know, if there are any other pitfalls in there I'll have time to find them. We really haven't had a chance to do that with those other ones. And other than putting the waste management stuff on the channels, probably won't discuss the flight plan any more. I think we are all on a safe frequency.

CC Rog, Pete, understand. As a matter of fact, we've been looking very carefully at tomorrow's also and I have a couple of little minor numerical changes that I would like to make. And we've found one potential pitfall. We've still got about 6 minutes left in this pass. I think I'm going to take a minute to get squared away I talk to you again. But I am going to ask you to make a couple of pencil corrections. And they will be to the details pads, with regard to momentum inhibit time and also one change to the summary. So I'll be off the air here for a few minutes looking at this piece of paper.

CDR Okay.

CDR While you're doing that, Dick, I noticed that this gets recorded. So I was going to make another comment for you and you can consider it later on.

CC Okay.

CDR Working the crewman position 1, 2, and 3 right now for post sleep. It seems easiest (garble) to keep in the record and we're sort of sticking to that right now. And you might as well go ahead and flight plan it that way. The evenings we've been pretty well sticking to 1, 2, and 3 also, other than swapping around the ATM according to your schedule. But I think we'll keep using it with the evening. But you can just plan CDR 1, SPT 2, and PLT 3 on these post sleep checklists.

CC Roger copy.

CC CDR, Houston. I'm ready to tell you these changes. And one of them is in the assignment, we've made a goof on one of the pads in your tomorrow's presleep checklist. And let me give you what we intended on that.

CDR Okay, go ahead.

CC Okay, on the flight plans, Pete, the summary numbers should read for the SPT, 32 and the PLT 23. They are reversed. And if you will take a look at the ATM

SL-11 MC-409/3

Time: 21:04 CDT 9:02:04 GMT
6/1/73

on times for presleep you will notice the detail pad support that. The correct designations are SPT 32, PLT 23.

CDR Okay but their detail pads are correct right?

CC Okay, well I tell you what we - stand by 1.

CC CDR, Houston. We have one more pass here and I promise you I'll get the thing straight and we can talk about it there. The EGIL has a question for you. He's - we're showing an increase in power consumption of about 300 watts over last evening. And we think we've accounted for the water heaters you are using and the shower. Is there anything difference about the configuration that you have up there tonight as it was last night?

CDR No not really because we've got all the lights out completely in the MDA and they have been out all day. We're running just about 5 or 6 lights down here and other than the hot water heater that that we put on, that is about it. I can't think of anything that we're using.

CC Okay, Pete, thank you much. We'll see you at Ascension at 2:20, that's about 6 minutes from now.

CDR Right, we'll have the water heater off. We'll turn the water heater off (garble) water.

CC Okay.

PAO This is Skylab Control at GMT 2 hours and 14 minutes. Our next pass is at Ascension in approximately 5 minutes from now. We'll leave the line up for that pass.

END OF TAPE

SL-11 MC-410/1

Time: 21:16 CDT 9:02:16 GMT
6/1/73

PLT Hello are you there, Houston?
CC Go ahead, Paul.
CC Skylab, Houston. How do you read?
CDR Loud and clear.
CC Okay, I do have your pad changes here.
They are - and I've researched them. There's one change to
the flight plan and then there's one change to each of the
detailed flight plans - detailed pads.
PLT Okay, Pete and I are ready. And we just
remembered that one thing you made - the EGIL may be (garble)
one (garble) n each of the three food heaters Dick.
CC Roger, understand. And that helps him
out in figuring out what we're up to. And - -
PLT (garble)
CC Okay -
PLT Go ahead, we can change it.
CC Okay, first is on the summary flight plan.
And it's up at the top where the pre- and post-sleep design-
ations. These are the correct numbers: CDR's are correct,
11. SPT should read 32. The PLT should read 23. Now, I
copied the CDR's comment on the post-sleep and if you all
want to do that 1, 2, 3. The major change to this is the
post - presleep where the ATM runs and so what we're sug-
gesting is 32 for SPT, PLT, 23; and that will make your
detail pads correct with regard to ATM on times. I do have
a change for each of the detailed pads, however, on momentum
inhibit times.
PLT Go ahead.
CC Okay, first of all on the - and incidentally
the reason we have a mom - these change on momentum inhibits
was a machine problem today. We - those first were made on an
initial estimate and we were late in getting the run down
on the machine. On the SPT details, where it says 16:35
momentum inhibit. That time should read 16:37. Next is
PLT.
PLT Go.
CC Okay, on the PLT's down there at the bottom,
where it says 20:32 momentum enable. That should read 19:32.
PLT Okay, (garble) station, you go
ahead and enable momentum then.
CC Sorry, didn't copy the question.
PLT The new time for momentum enable for me
tomorrow night is 19:32.
CC That's affirm. And on the CDR's pad,
up there toward the top where it says 18:30 momentum enable,
that should read 18:11.
CDR Okay, 18:11, Dick, is that it?

SL-11 MC-410/2

Time: 21:16 CDT 9:02:16 GMT

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CC Yes sir, that's it. We still got -
CDR I got one other comment to make. I chased after teleprinter paper, and there seemed to me to be a great deal of paper remaining. I measured it and the diameter - the diameter remaining was 1 and three/eighths inches.

CC Okay, we copy.

CC And Skylab, Houston. One more comment on the flight plan, and then I guess we've about talked it to death. On tomorrow's flight plan, one thing that we noticed that apparently was a mistake on our part is under CDR's column, after the M092/93 run you should have a PH period scheduled in there. It is not in there, and we're passing that on to the summary team. Incidentally, I have a brief description of the EREP pass tomorrow. And I thought you might be interested in it since it is a little bit different due to the power. And I'd like to describe it to you, if you'd like to hear it.

PLT Yeah, go ahead.

CC Okay, first of all, we're giving some extra time to the friendly PLT in order to accomplish some procedures that we're going to be uplinking tonight, that are slightly different in aligning S192. I can't describe them to you in detail right now, Paul, because I don't have them here in front of me, but we're going to give you about an extra 30 minutes there during the prep to try to help us out on that alignment. The data take time for this pass will be about 10 minutes. And the pass is restricted to a 40-degree central angle of travel that is centered around local noon tomorrow. The pads will commence up around San Francisco and go down the California coast. About a 10 minute data take. Over.

PLT Okay, now, this 30 minutes to do a 192 alignment, I assume there's going to be some indication in there to go ahead and power up 192 30 minutes earlier, or how are you going to work it to make sure that it's at operating temperature before I start the procedure.

CC We are going to power it up early, Paul, and we are taking that into consideration for - in the procedure. Another thing also in that 30 minutes that we're - going to do an S190 film advance, and S191 coolant problems have also - going to be incorporated into that prep. And that will all be on your EREP prep pad coming up tonight.

PLT Okay, good enough. Pete and I were just talking and we really haven't taken the time to do the 191 half procedure yet. We were talking about doing that tomorrow also.

END OF TAPE

SL-II MC-411/1
Time: 21:26 CDT 09:02;26 GMT
6/1/73

CC Tonight.
PLT Okay. Good enough. Pete and I were just talking, and if we had really hadn't taken the time to do the 191 malf procedure yet. We were talking about doing that tomorrow.

CDR You still there, Houston.
CC Affirmative, Pete. We got about a minute and 20 seconds.

CDR Okay, one other stowage item which went down the crack, which we caught today, was the AM tape recorders are stowed in the proper dome locker now. They've been left in the airlock dome all this time and I'm sure it could have dumped all (garble) like high intensity lights (garble).

CC Roger. Understand.

CC Skylab, Houston. One last quick question. We're about 30 seconds from goodnight. We assume that on that M47 this morning, you used the film transporters that were in the pad that we sent up to you last night. Over.

CDR I used the ones for M4874 Bravo. There was still enough left on that. That shot it all up.

PLT It was in the same location, Dick, but just about 5 percent on it, which (Garble) for getting it on sleeping bags so we just shot it up on that. Not on the one that was spelled out.

CC Okay. We copy. And you guys have a very good nights sleep and we'll see you tomorrow.

CDR Okay. Goodnight, Dick.

PAO This is Skylab Control. Greenwich mean time 2 hours and 28 minutes. Capcom astronaut, Richard Truly bid the crew goodnight on the pass just completed over Ascension tracking station. To recap the previous two passes over Vanguard and Ascension, Commander Conrad reported that pilot Paul Weitz had taken a shower, and Dr. Joseph Kerwin was still taking his and the Commander was still awaiting to take the shower. He had reported that the showers take a little longer to perform than originally scheduled, and he mentioned that it's quite a job to mop up the water at the completion of the shower. Capcom Dick Truly discussed with the crew the proposed EREP pass for tomorrow, which is scheduled to begin at 3:04 central daylight time, approximately 500 miles west of San Francisco. It will cover a path 2400 miles from San Francisco down the coast of California into Mexico. Test sites to be included in these passes cover the disciplines of regional planning, oceanography, geology, and agriculture. The pass will be utilizing the various Earth Resources experiment package sensors aboard the Skylab space station, and it will be a brief 10 minute pass. From San Francisco to Mexico City. We have LOS at Ascension. We will take the line down now. At GMT, 2 hours 30 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-412/1

Time: 22:03 CDT 9:03:03 GMT
6/1/73

PAO This is Skylab Control at Greenwich mean time 3 hours and 3 minutes. As the Skylab space station passes on its 266th revolution crossing over the Japanese Islands. Capcom Dick Truly bid the crew good night approximately 30 minutes ago on the pass over Ascension Island. We do not expect any air to ground on this pass. Summarizing today's activities, Flight Director, Don Puddy earlier this evening described how it was evident how the crew was enjoying their day off. Puddy seemed, said the crew seemed happy and in excellent spirits throughout the day. Systems wise, the Flight Director said there were no problems this the 8th day of the mission. In the power department, Skylab is still operating with 16 of its 18 batteries. Two are still off line. Temperatures are still decreasing slightly aboard the Skylab vehicle. Presently, the temperature in the sleep compartment is 78 degrees Fahrenheit. The current flight control team headed by Chuck Lewis, Flight Director Chuck Lewis, the bronze team, is going over tomorrow's flight plan, day 9, Saturday, June 2, 1973. Saturday will have the crew performing additional medical experiments, M092, lower body negative pressure device and M093 vectorcardiogram experiment. In addition the crew will man the Apollo telescope control and display panel for about 7 hours. The mission's second EREP pass now scheduled for Saturday afternoon at 3:04 central daylight time. The Skylab Earth resources sensors will be turned on for about 10 minutes to gather data for use by principle investigators in various disciplines including agriculture, geology, oceanography, and regional planning. More than 20 test sites will be covered in this 2400 mile long pass which begins near San Francisco and runs down the California coast and through Mexico. On duty Flight Surgeon, Dr. Charles Ross reported earlier following a conference with the crew that Commander Conrad, Science Pilot Kerwin, and Pilot Paul Weitz report they are in good physical condition. The Science Pilot mentioned that they are running activities in the orbital workshop dome earlier today produced a negligible g load to the point of being like floating. The Science Pilot, Dr. Joseph Kerwin did activate the inflight medical support system equipment. The crew seemed relaxed in their conversation with the ground today. And towards the end of the day Commander Conrad reported to Mission Control that things looked good for the first 6 days.

PLT (Garble) not low but the lights still set there (garble) I noticed I don't know but if

SL-II MC-412/2

Time: 22:03 CDT 9:03:03 GMT
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it opens or if we kicked it open che - In the STS the OWS BUS 1 and SETA number 2 circuit breaker is OPEN. It is closed down here in the workshop. I had not reset that yet. I didn't try, I just thought I'd let you take a look before I reset it.

CC Okay Paul. Say again in the STS which one is opened please, or was open.

PLT In STS in the BUS 1 and SETA number 2.

CC And Skylab, Houston. We noticed you've reconfigured the DAS and we are going to be starting our normal period of unattended obs tonight. We've still got about 2 minutes and 20 seconds of stand by on this pass. So I'll stand by.

PLT Okay, when is your next pass?

CC Hang on 1 second.

CC Rog, the next pass is down in Vanguard in 3 hours and 42 minutes.

PLT Okay. Well look, that's what we'll do just inhibit the caution and warning on those and turn in for the night and take a look at them later.

PLT That is 3 more hours or add 3 hours and 40 minutes, Dick?

CC No that's at 3 hours plus 40 - at 42 past the hour, this hour. And we concur with that and we are looking at the data on the buses.

PLT Okay, we'll probably still be up. Once again even on our own time we run behind. So give us a call at Vanguard will you please?

CC Okay, we certainly will.

PAO This is Skylab Control at Greenwich mean time 3 hours and 10 minutes. We will have loss of signal from the Guam tracking station in about 40 seconds from now.

PAO This is Skylab Control. Greenwich mean time 3 hours and 11 minutes. We have loss of signal at the Guam tracking station. We anticipate further conversation with the crew when they come over Vanguard tracking station in approximately 30 minutes from now. This is Skylab Control at 3 hours 12 minutes GMT.

END OF TAPE

SL-11 MC-413/1
Time: 22:40 CDT
6/1/73

PAO This is Skylab Control. Greenwich mean time 3 hours and 41 minutes. Skylab space station is currently completing its 266th revolution. We anticipate further communications with the spacecraft over the Vanguard Tracking Station due to a CAUTION & WARNING light which occurred after the last LOS at Ascension. This light came on when the crew turned off the heaters used for the shower water. Of course no warning light did come on when the shower water heaters were turned off. We anticipate further conversation with CAP COM Dick Truly and the crew, momentarily.

CC Skylab, Houston. We're AOS at the Vanguard for 11 minutes.

SC Roger, Dick. What did you find, anything?

CC Well, here's what we are going to do. We're going to dump the data tape recorder this pass, because the data that we're looking for is presently on board. I can't say that we really understand the problem, particularly because the WMC water heater is only on BUS 2. And also we don't see any correlation, immediate correlation, between the feeder circuit breaker being popped and the caution and warning. So our suggestion to you is that since we do not particularly need that feeder circuit breaker closed, that we leave it open until we've looked at the data. And secondly, we also don't see any particular reason to inhibit the CAUTION AND WARNING, and our suggestion would be to just reset the lights and leave the OWS BUS 1 and BUS 2 low, CAUTION AND WARNING enabled. Over.

SC But the signal's still there, Dick. That's why we can't do it. We got no CAUTION AND WARNING anyway. The lights are lit right now by enabling.

CC Ah so.

SC (Garble) That signal came, and it's still there.

CC It's possible that it's a caution and warning problem that was triggered by the turning off the heater. But we haven't bothered to troubleshoot it; we just thought we'd let you think about it for awhile.

CC Roger; copy. And we've still got 10 minutes this pass; so we're thinking about it.

SC Okay, now let me tell you. I know that when I turned that water heater on, I watched the amps come up about 5 amps; the current drew about 5 amps on button 2. Now I close the breakers to watch the currents again, when I open the water heater circuit breaker. And much to my surprise, also, when I open that breaker, the current drops on both buttons. So when in half a second to a second after that, that both the BUS LOW lights

SL-II MC-413/2
Time: 22:40 CDT
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came on simultaneously.

SC Hey, Dick, I got another one for you while you're thinking about that.

CC Okay. Go ahead.

SC During our normal activation is when we would have gotten a high intensity light and the right DAC and so forth (garble) rigged up in the dome area. Now we don't have anything rigged up there right now. I don't even know what DAC is supposed to be up there. So could you scurry real fast and give me a DAC number to use up there, so that everybody's happy, or can I just go grab any old DAC?

CC We'll scurry. And Paul; Houston. When you turned the WMC water heater off and you were looking at the two BUS current indications, what was the magnitude of the drop on the two buses?

PLT I'd say it was about 2 to 3 amps on each BUS.

CC Understand.

PLT You know that's pretty hard to read on that meter. But that's what I'd guess.

CC Rog. Understand.

PLT Joe Kerwin said that's exactly the answer you were afraid I was going to give you, and I'm afraid he's probably right.

CC Roger.

CC Skylab, Houston. A couple of circuit breakers we would like checked on panel 613. The CAUTION AND WARNING LOW VOLTAGE, sense 1 and 2. Over.

SC It works.

CC Okay.

SC Both those circuit breakers are open, Houston.

CC Understand.

CC CDR, Houston. Answer on the DAC we recommend is DAC 01.

CDR Okay. Well, I was gonna make a suggestion here. I think the DAC that was originally was supposed to be there is on Page 3-5. The activation checklist under the M16 photo prep. I just found it, and I can use 01 or I can use 03.

CC Let me turn to that page, and I'm doing that now.

CDR Okay, just a special (garble) is scratched out, but that's how a bunch of stuff went down the crack. See, we're not really ready for it yet. Shoot us with the straight (garble).

CC Understand. And as long as we still got 5 minutes left in this pass, we're assuming you guys have gotten together, and you can't think of anything else that could possibly have been going on in the electrical system other than that WMC water heater at the time you got the C&W.

SL-11 MC-413/3
Time: 22:40 CDT
6/1/73

CDR I was in the shower; so I wasn't doing anything. Let me make a suggestion, Dick, on this DAC business. Let's skip M151 tomorrow and just proceed with 183. We're going to run that again. And you guys scurry around tomorrow and block out on the Flight Plan - Why don't you comb the whole checklist, because I can't think of these things. But I suggest that if you just go through the (garble) thing, you may find a bunch of other stuff in there that's not done that would have normally been done. And you can throw it all in the Flight Plan the day after tomorrow or something, and we'll get it all done. And then we could really get into normal OPS. How does that grab you?

CC Stand by J.

CC CDR, Houston. We concur. Let's drop the M151 for tomorrow's run only on S183.

CDR Right, and just smoke over the checklist tonight and tomorrow and find out about (garble) and the DAC stations. And give us the right pages and an hour in the next day or something, and we'll rig all that stuff, and then we'll be roaring.

CC Roger. Will do.

CC Skylab, Houston. We recommend the following on your configuration for this evening. Leave all three circuit breakers that you found open, open. The two on the C&W on panel 613 and the feeder breaker. Until further notice, do not attempt to try the WMC water heater. And inhibit the CAUTION AND WARNING for those two items for the OWS busses. And we will dump the data, or I assume we probably already have dumped the data here at Vanguard. We're going to be taking it through the computers this evening. And, hopefully, by the time you wake up in the morning, as soon as we can analyse the data, maybe we will have a good story for you. Over.

SC Okay, and that's a pretty good configuration.

CC Very good.

CC Skylab, Houston. We're about 1 minute from LOS at Vanguard. We'll see you in the morning. Incidentally, this team that's on now has been making up your detail pads that have been available for you each morning, and we've sure enjoyed it. We're going to take about a day or so off, and next week we're going to be preparing your summary Flight Plan; so we'll see you then.

SC Just when you get good, they switch you, huh?

CC Reg.

SC Okay, we've enjoyed it, too. And we'll see you - Don't take too many days off.

SL-11 MC-413/4
Time: 22:40 CDT
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CC We won't.
CDR Have a meritorious good time for me there,
Richard, and the rest of the team. We enjoyed it.
CC Yes, sir. See you later.
PAO This is Skylab Control. Greenwich mean
time 3 hours 53 minutes. CAP COM Astronaut Richard Truly
discussed with the crew the problem the Skylab space station
experienced approximately 1 hour ago - the fact that the
CAUTION AND WARNING light came on after the crew had shut
off the waste management water heater, which was used to
warm the water for the showers. The crew has been advised
to inhibit the CAUTION WARNING light aboard the spacecraft
for this system. And until we can trace the source of the
problem, which will be done overnight, they plan to take
the information dumped on the last pass, dumped by the tape
recorders, run them through the computers tonight and to-
morrow morning. And when the crew wakes up in the morning,
they hope they can pass up to them the solution to the
apparent minor problem. Apparently the problem was ass-
ociated with a DAC camera, a data acquisition camera, which
was used for the M151. And it was suggested by Commander Conrad
that they drop use of the M151 camera tomorrow, which was
scheduled to film procedures of installing the S183
experiment. So at this time the crew has been again bid
goodnight by Capcom Truly. The ground will study the
apparent problem they had with the CAUTION AND WARNING light,
and this will be worked on overnight. And we have a pass
coming up again at Ascension. We'll leave the line up
until this pass is completed.
PAO This is Skylab Control. Greenwich mean
time 4 hours 3 minutes. Skylab space station is passing
over the Ascension Tracking Station on its 267th revolution.
To summarize the recent minor problem discussed between the
crew and CAP COM in Mission Control Center, a strange anomaly
did crop up in the caution and warning system in the orbital
workshop. Flight controllers here at Mission Control Center
feel it's not an emergency. However, the glitch that cropped
up is hard to figure out at this time. They've dumped a
tape dump over the Vanguard Tracking Station, which the
ground will look at overnight, hopefully come out with the
solution to the problem. At the time the CAUTION AND WARNING
light came on in the workshop, there were three circuit breakers
open. This occurred when the crew turned off the hot
water heater at the close of the shower sessions. How these
circuit breakers remained open is the question. The vehicle
is in a safe configuration for the night. The crew has been
advised to leave the switches alone for the night, and when
they awake in the morning, they will be given new instructions.

SL-11 MC-413/5
Time: 22:40 CDT
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This will close out the announcements from the Public Affairs' console at the Mission Control Center. The next report will be at 6:00 a. m. central daylight time, Saturday morning, June 2. This is Skylab Control; Greenwich mean time 4 hours 5 minutes. This is Skylab Control.

END OF TAPE

SL-III PC-1C/2

Time: 1:00 p. m. CDY

6/29/73

of the mission with the carousel number 1 that had been exposed to high temperature, and we'll have some degradation there but we feel we'll have some very good data. So, we were able to complete about 7 programs out of 15 - I mean about 5 passes out of 8 on the UV panorama experiment. To give you some idea, one plate is like one of Dr. Cortez's normal rocket shots, so he's very pleased with the data there, and he was able to get about 5 plates on the first pass; a total of 11 plates. So that's about like 11 rocket shots for him. The next experiment is the - we have the S073 gegenschein zodiacal light. Dr. Weinburg at Dudley Observatories is the principal investigator on this one. And we were hoping to conduct about 15 programs. We were able to conduct 7, but one of the things that we were able to do during this time which we were all very thrilled about - they had a simultaneous operation of this experiment along with the groundbased telescope at Hawaii, and at the same time we were getting simultaneous data from the Pioneer shot. So we had this joint observing program, plan and it's the first time they've had a coordinated simultaneous observation of the zodiacal light from - in Hawaii, near-Earth and Skylab and then from deep space with Pioneer, so we were better pleased with this. Also, utilizing that same hardware, we have a G027 photometer that is - contamination measuring - scattered light contamination experiment and Dr. Joe Muskerry from the Martin Company is the principal investigator. And they have worked out a joint observing program on the S073, T027 so Joe Muskerry was able to get in 7 programs - about half the programs we had hoped to work in. Of course, the 15 programs was assuming that we were able to use the solar airlock as well as the antisolar airlock. Also another experiment that Dr. Muskerry's principal investigator on; we have a T027 sampler rating contamination samples, and this consists of about 248 different samples. Various optical surfaces, grading surfaces, and so and in this about some 30 guess observers have samples on this, and this experiment is deployed through the airlock. We had planned to deploy this through the solar; we did analyze it through the antisolar. The one thing that we did have to give up, in addition to the 248 samples - originally we had planned to have the quartz crystal microbalances operating simultaneously to measure the rate of deposition of contamination. This was not possible because of the instrumentation setup on the antisolar, but this experiment - we have a carousel - we have some about 60 percent of the samples are exposed for the full time that the experiment is deployed. We had hoped for five days if mission time would have permitted. That

SL-III PG-1C/3

Time: 1:00 p. m. CDT

6/29/73

was the basic plan. We were able to go approximately 2 days. In addition to the samples that are exposed all the time, we have some samples on the carousel that are exposed for 1 hour at a time and some for 1 day at a time, some 2 days at a time. So we were able to accomplish about 45-50 percent of the objectives we had hoped to accomplish on the T027 sample array. The next experiment was one of our ED23, the UV from Quasar's Joe Hamilton, this is a student principal investigator from Hawaii, and this was a joint program with Dr. Carl Henize using the S019 UV experiment. We had planned one pass for Joe. We were able to get it. We feel that we of course, have not been able to reduce the data yet, but we do feel that we did complete his experiment 100 percent. The - the next experiment that we had was S009, a nuclear emulsion pack, and this is the principal investigator on this nuclear emulsion experiment - this is a cosmic ray experiment - is Dr. Shapiro at the Naval Research Lab. Some of you may remember that he flew a similar experiment on one of the Gemini flights. But this - we did have a couple of concerns there, one thing this - the emulsion pack is made up in many - of many laminations and these are separated when you get to the ground for studying the individual lamination with the microscope. We were quite concerned at the elevated temperatures, whether we would be able to separate this prob - as we had hoped. We are just getting into that now. We do have some problem with that because of that temperature. We also had a problem there with the experiment never wants to be pointed at the ground. It wants to always be looking away from the ground. And there the experiment is set up so you can automatically compensate for changes you know, in Beta angle, and then also when you're passing through the South Atlantic Anomaly or at times when you're looking at the Earth, the experiment closes like a book. And then any trace that goes - you know, lines up on each side - each face of the book is rejected when you run it through the computer program. So we did have trouble during the latter part of the mission with a motor problem which was caused by a tolerance problem on the emulsion pack. So we - it will cause some added difficulty in reducing the data - the fact that the crew had to make manual adjustments for the - -

END OF TAPE

SL-III PC1D/1

Time: 1:00 p. m. CDT

6/29/73

WAITE - - the fact that the crew had to make manual adjustments for the beta angle and we were unable to close and reject those, reject the impacts during the passes through the south Atlantic anomaly. But, we do plan to send up a new nuclear emulsion package on SL III since we were quite concerned about the high temperature stowage problem. And also the fact that you don't like to have a long shift life on these nuclear emulsion package and since we were a few weeks late with the launch, we were also concerned and that's the reason we made the decision to send up a new emulsion package for S009. We do have that, the first package has been returned to NRL, and they are in the process of reducing the data at the present time. We had a, we had another experiment passive type experiment, S228 transuranic cosmic rays, Dr. Bufford Price from Berkley. And these are lexion and panels that are deploy, the astronauts deploy in the workshop in order that you probably saw some of these 36 panels that are deployed in the workshop for cosmic ray investigation. These were deployed as scheduled. They will not be returned until the end of SL IV to give us adequate exposure time. Another passive experiment there also is the S230, the magnetospheric particle composition detectors. Collectors are mounted on the airlock strut. They are like 18 inches long and about 6 inches in diameter. And there are two separate samples and these are already exposed and as soon as we jettison the pay load schroud these were exposed so that there was actually no astronaut participation at this time. We plan to bring back on each spool there is a detector sample, and in one case an aluminum sheet, and then after that is removed, it exposes a second sheet. They will bring back two of these samples on SL III and then the remaining two samples on SL IV on the S230. These samples are aluminum, aluminum oxide and platinum foil. And they are applying the foil technique, you know, similar to the experiment they did on the lunar surface. And so we will be getting no data until the crew brings back the first two samples on SL III and then the last two samples on SL IV. In the technology area, we had T003, the inflight aerosol analysis experiment, and this is the small instrument that will first on this one. This was an experiment that was started at the Electronic Center in Boston, and then when it became, when that group went with the Department of Transportation, the same investigator continued on this experiment with the development center and the work there was done on the DOT in Boston on the T003. They took, the astronauts took daily readings on the T003 in various locations in the workshop to measure the inflight aerosol contamination there to determine

SL-III PC1D/2

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just what contaminants are present in the workshop due to the normal crew activity. We did complete 100 percent of the planned runs on the inflight aerosol analysis experiment. They do bring back the filter samples for analysis after flight. I don't have any data as yet back on this, but they will take a look at the generation of particulate matter that, you know, generated by the personnel or the equipment operating in space to give us some idea of the adequacy of the air distribution system and the circulation and the filtering in the air system, and some of the effects of the aerosol build up in the zero gravity. Another experiment that we were planning was the Department of the Defense experiment, DL24 thermal control codings. And there we had two samples that were also out on the airlock strut, two different sample holders. Some of these are thermal paint samples, and some are photographic film samples that are returned. And those are again will - Dr. Bill Leen at Wright Patterson Air Force Base is the principal investigator on this experiment. And these samples are exposed again as we jettison the film shroud. The crew did retrieve two of these panels and we brought those back on SL II. We have two additional panels that will be returned on SL III or IV, preferably SL III. In the space manufacturing area, the M512, the space manufacturing facility, we conducted several experiments. We had three disks in our metal melt, our M551 experiment. And these we used the electron gun in the space vacuum chamber there to actually weld three different samples. One of a circular samples, one of aluminum, one of stainless steel and one of tantalum. These three samples have been returned to Marshall. We've just begun to analyze them, but our principal investigator was quite pleased with just a preliminary look at these. Also utilizing the same space manufacturing facility, we have the M552, the exothermic brazing experiment. There we had tubes with the braze material around it, and then an exothermic package, and it's in a vacuum chamber. And these were ignited by an electrical charge. And then the exothermic reaction causing the brazing of these tubes, and of course those four samples were conducted successfully and have been returned to Marshall. I did mention the M551, the investigators about 4 men from Marshall Space Flight Center. And then the 552, Jim Williams from Marshall Space Flight Center. The M553, the sphere forming experiment, this is the experiment that has the 14 little samples around the, that are suspended on stems around the disk or wheel, and then one tungsten target to align the gun. We had two identical wheels just because it is difficult to align the target just right, and we did want to have a better probability of completing this. We

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were able to complete the first wheel without much problem. We did get back 13 samples out of the 14 on the first wheel. On the second wheel, we don't understand fully what happened, but after each sample, after we fired the gun on each sample, Pete was having to wait approximately 2-1/2 hours for the chamber pressure to drop to an acceptable level. We were trying to go to the 10 minus of 5 tor. And we had a pressure build up each time we operated one of these samples, and Pete would have to come back a couple of hours later. But he did complete 7 of these and we stopped at 7 since the first would have been unsuccessful, because of the astronaut time involved. Those samples have been returned to Marshall and our principal investigator Dr. Hassemeyer from Marshall, well I talked to him yesterday and he is just elated over the preliminary look over at the - -

END OF TAPE

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WAITE - - Marshall. Well, I talked to him yesterday, and he's just elated over the preliminary look at the sphere-forming samples. Oh, they did by the way - we did have a little problem at times with some of these samples, when they're melted, there's a little stem and they are ejected when you burn through and then they solidify when they're in free fall, you know, to form a perfect sphere. We have some of those that ejected prematurely, and some that didn't eject just when we wanted to. Not a real problem there, but we did bring back the wheel, the second wheel so that we could understand a little better just what problem we had with the ejection on the second wheel. No problem with the first wheel there. Now, I mentioned that in 555 gallium arsenide crystal growth we had to delete that from the stowage list on the command module on SL-2. We will be sending it up on SL-3. So that's a quick rundown on the Marshall experiments - earlier experiment.

PAO Okay. Thank you, Mr. Waite, Mr. Keathly.

Any questions.

QUERY Mary Gleason. Do your films show why the camera failed?

KEATHLY We had two camera failures. Are you referring to the S052 or the S082? Okay. We'll cover both, okay. Yes. This is all preliminary looks and we're going into the failure analysis now, but it did show on the S052 high altitude observatory camera, that the film did indeed tear. The reason for the tear, apparently, was - resulted from some sprocket hole damage that the - that was experienced on the feed reel. Why that sprocket hole damage exists is not yet known, but it did - The sprocket holes were damaged, the damaged sprocket holes hung up on the film flattener type of device, and caught and stopped, and then when the takeup reel, the motor on the takeup reel was pulling it through, it tore the film. It is pretty clear what happened, but it's not clear just why that sprocket damage existed. We're still looking into it. As far as the S082A camera is concerned - this is the one that jammed earlier in the mission that was replaced on the SAS bear EVA - that particular camera is not a roll-type camera. It's a slide-projector type camera, or a slide-type camera. There's an upper stack made up of long film holders about 12 inches long and about a little over 30 millimeters wide. And these film stacks rotate through the camera from top stack to bottom stack. And the analysis shows, or the inspection shows, that the top holder, when it was put against the rolling circle and exposed and then retracted and dropped down to the bottom stack, there's a retraction device that takes that holder then, and tucks it up in the bottom stack. And it fits on a couple of guide rails, or it's suppose to. In this particular instance it

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missed the guide-rail for some reason. We've never had that happen to us before. In fact, we've never had either one of these failures happen to us before in any of our testing. It did miss the guide-rail. Then when the retractor device or the translation device went back up to get the one upstairs again, after the next exposure it just carried that one up with it that was still there, and it jammed right up into the top stack. And it was, in fact, a jam. And there was some speculation that we had a microswitch failure or a jam. It was a ja. Here was something like 16 frames of data on that camera; so we took exactly the proper corrective action, and asked the crew to go out and change that during that SAS beam EVA. The next camera we put in there worked perfectly and this was 2 failures on these 2 cameras that we've never really experienced before. But that was the situation - -

QUERY How do you say your pictures compare to previous eclipse photos?

KEATHLEY In the case of the coronagraph, that's where you have to make the comparison really. Equal to, as far as quality is concerned, equal to previous eclipse pictures or nearly equal to or equal to previous eclipse pictures. You must understand, as far as quantity is concerned, we got more coronagraph pictures in this SL-II mission than anyone has ever collected in the past hundred eclipses. So as far as quantity is concerned, a tremendous amount of quantity, a hundred times as - in recent mankind. As far as quality is concerned, it's every bit as good. So the artificial occulting worked well. Yes?

QUERY Well, I've got two or three questions here. First, you said that the people at Marshall were quite pleased and elated - I think you used the word elated, at the first look at the sphere-forming experiment, and the wells. Could you elaborate on that just a little bit?

WAITE Yes, all right. Well, on this, you know, we did have some problem with the 517 and the M553 with this pressure buildup, and also we had a problem I didn't mention; a relay stuck a couple of times and the gun had to be shut off with the circuit breaker. So, we were quite concerned - just with a preliminary look at those - the samples that we had hoped would be ejected and form a perfect sphere - you know, as they were in free fall, the samples looked very good. You know, just a preliminary analysis. We were able to get back - you know, out of the two wheels, 14 - well - you know on all 14 different specimens, good samples. So we haven't really evaluated in any detail, but we do have very good samples on all 14 different specimens.

QUERY Are they perfect spheres?

WAITE This we don't know yet. Just - just with

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a preliminary look, it looks very good, but we don't have that.

QUERY So far are they better than any that could have been made on Earth?

WAITE I'm - I can't say that yet.

QUERY Okay, how about the wells? What did you find from that?

WAITE Well, you know, there - we really didn't know just how the wells would go, you know, they're without the - one-g. We were anticipating that we would have very good wells there. You know we're not - we're not trying to say, "Can we do a well better in orbit than we can on Earth?" but "Can we use welding sometime in the future for building up structures in orbit?" We really just - a preliminary look at the wells - with just a capillary flow, you have - and - and no problem with the gravity - since you're in zero gravity, the wells were very uniform. Looked very good just with a very cursory look - on all three of those M551 samples.

QUERY And I'd like to ask you another question along the same line. I know you - the results are - it's early, but you said there was something that - things they didn't expect to see in the X-ray emissions. But again, another principal investigator seemed quite pleased with what he'd - his first look. Could you elaborate on that a bit?

KEATHELY Yes, some previous rocket shots have indicated a - say for instance, a loop structure in the X-ray emissions. Loop structures meaning that the X-ray emissions appear to be connected from one active region or one particular chromospheric structure to another chromospheric structure. And that particular principal investigator was quite anxious to get a long time history of that particular kind of structure, and apparently he - he got excellent pictures on that particular aspect of it. He didn't elaborate on the things he didn't expect to see, and I didn't push him all that hard yet, until he - he's just - he's got a bunch of negatives there and he's just looking at negatives. He hasn't blown them up - he hasn't looked at them, he hasn't microdensitometered them yet, so it's a little preliminary to ask him to come up with that.

QUERY Have you expected to see these 3-million-mile protuberances in the corona?

KEATHELY Yes, I think everyone expected to see those streamers. The thing that - that we're so pleased about is that it's a very difficult thing to build a coronagraph so that the scattered light is down - is less than - the scattered light is less than the brilliance of those things at 3 million miles off. And - and our analysis of both the film and the TV downlink shows that the scattered light is on the

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order of 1 times 10 to the minus 11 times the brilliance
of the Sun. And the streamers are estimated in that parti-
cular area at 3 million miles to be something on the
order of 1 times 10 of the minus 9 times the brilliance
of the Sun. So we're trying to detect a very faint emission - -

END OF TAPE

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KEATHLEY So we're trying to detect a very faint emission and so therefore, your scattered light in that particular instrument has to be very good. And it exceeded our expectations by two orders of magnitude. There is virtually no scattered light in that instrument and it's very encouraging, and the structure that you see as a result of the lack of scattered light is just tremendous. It's never been seen before. That's what I meant - by the way the - as you know that coronagraph can polarize that structure, in other words he runs through a series of three polarizing wheels, and so you get a different - you get a sort of of three-dimensional look at the structure of that - of those streamers. That worked well, and he does see that structure.

QUEK Mr. Keathley, there seems to be a great deal of interest in - in this eclipse tomorrow from ground-based observers here trekking into Africa to get a good look at it. Would you say that we're going to get a better idea of - this will be the - putting it together with the AIM - what will be collected from AIM data - this will be as good a look or better look at an eclipse of - than we've ever seen before - on the eclipses that - man made eclipses - that is the AIM coronagraph?

KEATHLEY Well, first of all, let me just repeat. We won't see the full eclipse from orbit. We only - it's only about 7-1/2 percent eclipse, so called. So only about 7-1/2 percent of the sun is eclipsed. So we still see the sun and the moon. And there is always a great deal of emphasis and great entourage of scientists who - the various areas where the ground track is - every time there's an eclipse, and they fly - Convair 990's around and so forth and try to track the eclipse and chase the eclipse. And people at very high altitude - put instruments at very high altitudes and where the ground track is and take data. So there's a very large expedition of scientists track the eclipse all the time. They get some wonderful data because the - the disk of the sun is occulted and they can see the surroundings and so forth. And they take data before and after - just before and after the eclipse. So the orbital data we're going to get is not that same kind of data. We - we see first of all only a 7-1/2 percent eclipse. But we will take data just prior to the 7-1/2 percent eclipse. During it and just after it, and compare the data that we see with the ground stations. Now obviously, being above the earth's atmosphere, we're going data that's undistorted by the earth's atmosphere. And so therefore, the data will complement one another. We may be subtract out, calibrate, and those kind of things, some of their data.

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It's kind of like comparing an apple to an orange. I'm sorry, that's just it.

QUERY Can you compare what will be seen tomorrow and what might be learned tomorrow with what the astronauts saw and what was recorded on the coronagraph when they used the occulting disk?

KEATHLEY There really won't be any comparison, because the coronagraph that we have occults out the entire - entire sun. And of course, it will continue to occult out the entire sun even if the moon is going across it. The moon will therefore occult out certain streamers that will exist in its path. So I don't think you can really compare that either. I'm sorry I just can't - can't do it. It's - again - it's like an apple or an orange.

QUERY Mr. Waite, on the materials processing, do you understand the problems with the gun and the pressure enough so that you won't have any problems on the next one. Do you know how to fix them?

SPEAKER Let me say that, on the gun, that was only intended for use during Skylab 1/2. You know, we - that since it did require quite a bit of energy, we - that did have a battery - a 90-day battery. And all of those experiments that utilized the gun were completed. Yes, if we - we do understand the - the problem with the gun. I mean, we know which - we had a relay sticking intermittently. We had not had that problem in any of our ground testing or our qual (?) testing. But we did have that relay sticking. It took just a very - when it did stick, it would take a very slight jar to break it loose. It did cause an inconvenience, but we did have a circuit breaker that you could turn off to stop the gun. But, we will not be using the gun again. Now as far as the time required to evacuate the chamber to 10 to the minus 5 torr, we are studying this now because that could influence this on our - our SL-4. You know we are conducting the M518; we have the furnace and many different, you know, samples from PIs all over the world. About 11 different experiments that utilize that M518 furnace. We are taking a look - we do want to understand why we did have that pressure buildup and why it did require 2 to 2-1/2 hours to vent down to the pressure 10 to the minus 5 torrs. Because it could affect our - our heat transfer phenomenon, you know, when we use our M518 furnace. I don't anticipate any real problem, we are going to study that to be sure. It would be just be one of heat transfer on the future experiments that we'd be concerned about.

QUERY Did you get any information for Dan

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Bochsler, ED -22?

WAITE ED22. Let me think on this one. I apologize. There are 98 experiments on board. But as far as I remember - -

QUERY ATM. I'm sorry if I didn't direct the question.

KEATHLEY Oh, I see.

QUERY This is Objects in Mercury's Orbit,

S052.

KEATHLEY I'm sorry, I didn't make the connection either. No, no, I don't think we've accumulated any data on that particular observation.

QUERY Do you expect to attempt to get data on another flight?

KEATHLEY The one - the one joint observing program that we did not complete, if I'm correct on this one, the one joint observing program we didn't complete was some nonsolar observations - nightside types of observations, and so forth. We made one attempt to - to attempt to plan that in but we ran into some planning problems and did not get to complete that one, or did not even get to make an observation on that one on that particular area. That will be planned for the next mission. We can't do it unmanned, by the way. That's not possible.

PAO No further questions, we'll thank Mr. Keathley, Mr. Waite. We'll start with Mr. Kleinknecht and Mr. Belew as soon as they arrive. And we understand that they're not here yet, but they should be here momentarily. Want to take a coffee break?

END OF TAPE

SKYLAB II

VOL. II

SL-II MC-66/1

Time: 04:00 a.m. CDT, 20:00 GET
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PAO This is Skylab Control at 9 hours Greenwich mean time. At the present time the Flight Controller, Milt Windler, and his team of flight controllers are planning a slight attitude adjustment to take place approximately 9:58 Greenwich mean time, that's a little less than an hour from now at Honeysuckle tracking station. That will be later in rev 170. We are at this point - I take that back - that's on rev 169. We are at this point early in rev 169, just beginning our pass over the Equator and we're headed to the northeast - headed for the Canary Island tracking station. We'll have acquisition of signal there in a little over 4 minutes. There have been no new problems arising in the mission and everything looks successful. We expect the crew to be awakening at approximately 9 o'clock, but they will not be alerted. They will wake up on their own - at their own time and will announce their awakening to us and we'll be waiting for that sometime after 9:00 a.m. central daylight time. This is Skylab Control at 1 minute and 8 seconds after the hour.

END OF TAPE

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Time: 05:00 CDT 21:00 GET

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PAO This is Skylab Control at 10 hours Greenwich mean time. At the present time repressurization of the orbital workshop area is preceeding on schedule towards a completion about 12:49 Greenwich mean time. 2 hours and 50 minutes from now. Making the station ready for habitation before the crew wakes up sometime after 1400 Greenwich mean time. At this time the pressure indicator in that area are reading about 3.9 pounds per square inch. There are expected - The crew's expected to enter the workshop about 1600 Greenwich mean time, depending on crew wake up. That's assuming they wake up after about 8 hours of sleep. Power usage during the final depressurization cycle in the orbital workshop has been relatively high and Flight Director Milton Windler has reduced the pitch of the space station to bring more direct sunlight on the ATM solar panels, thus increasing the charge levels of the seventeen batteries still operating aboard Skylab. Charger battery regulator module number 15, which ceased operations earlier in the mission continues to show no amperage and is apparently has a stuck relay that cannot be repaired by the crew. This inactive CBRM will cost an estimated 150 to 200 watts in power generation. Battery charge is relatively low, as electronic equipment is being operated to provide heat needed to warm oxygen as it is released into the workshop to prevent coolant temperatures from dropping. The reduction of pitchup to 45 degrees, which began about 5 minutes ago, will charge batteries, which should be at high levels before the crew begins activation later today. Temperatures in the water coolant loop that connects the suit umbilical system have been rising steadily after a very low pitch angle of about 25 degrees up was used during the preceeding night. At the present time the SUS coolant inlet temperature reads 37.3 degrees Fahrenheit, far above the freezing that caused concern for several days this past week. Estimated temperature in the food storage area is now at about 127 degrees and may be expected to rise 1 to 2 degrees before the crew enters. As a result of the lower pitch angle now being used to charge the ATM batteries. At the present time there have been no additional problems arising at the Skylab Mission Control Center. And we expect a change of shift at 7:00 this morning as Flight Director Milton Windler goes off and Flight Director Neil Hutchinson comes on. This is Skylab Mission Control Houston at 10 hours 2 minutes and 40 seconds, Greenwich mean time.

END OF TAPE

SL-II MC-68/1

Time: 06:00 a.m. CDT, 22:00 GET
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PAO This is Skylab Control at 11 hours Greenwich mean time. At the present time all systems are still operating properly on the Skylab workshop and in the command module. The temperature right now in the cabin of the command module is 69.3 degrees and the pressure level in there is 4.95. We have continued to pressurize the orbital workshop. It is now past the 4 pound per square inch level, and will rise to 5 pounds per square inch in plenty of time for a crew wakeup and they're having no problems with any of those systems so far. The TACS consumable status right now is that we have 54.5 percent of the total amount of TACS gas originally carried still in the tank. Considerable amount of TACS gas was used last night but there still remains approximately 30 percent more than is required for all experiments and maneuvers throughout an eight month period. This is about 8 percent at this time - about 8 percent more than was expected in the flight plan so that there's a - there's fortunately a very large pad in this area so that we have plenty of TACS gas remaining. But there was quite a lot used last night during the maneuver. This is Skylab Control at 11 hours 1 minute and 16 seconds Greenwich mean time.

END OF TAPE

SL-II MC-69/1

Time: 07:00 a.m. CDT, 00:23:00 GET

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PAO Skylab Control, Houston, at 1200 hours Greenwich mean time. The Skylab orbital assembly now traveling in an orbit of 239 nautical miles by 235 nautical miles, presently passing over the southeast portion of the Pacific Ocean. The next tracking station to acquire will be Texas, some 7 minutes from this time. The Skylab crew aboard the command module are still in their rest period. Wake-up time is presently somewhat open-handed; however, it should be around 9 o'clock central daylight time, or 1400 hours G.m.t. Also, the assignment of the Mission Control Center is being handled in much the same way. Flight Director Milt Windler's team is still on duty. However, it is expected that they will be replaced by the Neil Hutchinson team shortly. At 1200 hours G.m.t., this is Skylab Control, Houston.

END OF TAPE

SL-II MC70/1

Time: 08:00 a.m. CDT, 1:00:00:00 GET
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PAO Skylab Control, Houston, at 1300 hours Greenwich mean time. The Skylab orbital assembly presently in an orbit of 239 nautical miles by 235 nautical miles. Presently passing over the Indian Ocean on the 171st revolution for the Saturn workshop. Meanwhile, in Mission Control, the Neil Hutchinson team is beginning to arrive on the scene. Their team color is silver. Presently, discussions are centering on the activation checklist, which represents the procedures that the crew aboard Skylab will follow for entry into the workshop today. We're at 1300 hours 1 minute Greenwich mean time. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-71/1

Time: 09:00 a.m. CDT, 1:00:60 CET
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PAO Skylab Control, Houston, at 1400 hours GMT. Skylab is presently in an orbit of 239 nautical miles by 235 nautical miles and under acquisition, at this time, by Newfoundland Tracking. The next station to acquire will be Madrid, in approximately 3 minutes. Meanwhile, in the Mission Control Center, Flight Director Neil Hutchinson continuing to go around the room consulting with his flight control team on the very detailed activation checklist, which the Skylab Crew will follow when they enter the workshop for parasol deployment later on today. Presently, no plans are laid on for a detailed analysis of the probe by the crew after it's removed for entry into the multiple docking adapter. And also, at this time, there is still no definite indication as to when Conrad, Weitz, and Kerwin will wake up to start their work day. We're at 14 hours 1 minute GMT; this is Skylab Control, Houston.

END OF TAPE

SL-II MC-72/1

Time: 09:05 a.m. CDT, 01:01:04 GET

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CC Skylab, Houston. Good morning.
SC Hi there.
CC How is it going this morning? You guys rest good?
SC Yeah, we slept pretty good. We're just - we really just got up just a few seconds ago, and we'll try and put (cut out) and get with it.
CC Okay.
SC What friendly words did you all think about over the night?
PAO Spacecraft Commander, Pete Conrad, talking with CAP COM, Henry Hartsfield, here in the Mission Control Center. Per an agreement, which was reached last night when the VERB 99 flashed up in the DSKY, the crew was saying they were ready to talk. We see VERB 99 now on the command module computer display.
PAO Skylab Control, Houston. We have approximately 5 minutes remaining on this Madrid pass; the next station to acquire will be Honeysuckle, and that's about 42 minutes from this time.
SC Hey, Henry, where are we?
CC You're over Madrid now.
SC We thank you.
PAO That was Paul Weitz chiming in to the conversation, asking for location - -
CC Four more minutes on this pass.
SC You got any big changes for us, or are we going to crap off on day 2 the way we got it figured?
CC Yeah, Pete, we're working on it now. What we want to do is get together a package for you; try to have it either at Honeysuckle or stateside before we get going here. And we got a few changes for the activation checklist, and we're also going to have some questions for you on probe removal. We'd like to check a few things, before we pull that thing out, to help us in the troubleshooting. And the main thing is, we want to just kind of relax here a bit and get organized and start off on the right foot.
SC Okay, very good. I was thinking about that probe, too. You know we did lose a little nut, but if you got another one of those around anywhere in the spacecraft, we could always rob it.
CC Roger; copy.
PAO About a minute away now from loss of -
CC About 1 minute to LOS; we'll be picking you up at Honeysuckle at 00:50:00.
SC Right. Honeysuckle at 00:50:00.
PAO Skylab Control, Houston; 14 hours 12 minutes G.m.t. We've had loss of signal with Madrid. Next station to acquire is Honeysuckle in approximately 37 minutes.

END OF TAPE

SL-II MC-73/1

Time: 09:48 a.m. CDT, 1:01:48 GET
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PAO Skylab Control, Houston, at 14 hours
48 minutes Greenwich mean time. About a minute away now from
acquisition with Honeysuckle. This will be a very short pass,
approximately 1 minute and 55 seconds in duration. We may or
may not start passing to the crew the checklist change items
for the activation. It will be a crew option. We'll stand
by and monitor.

CC Skylab, Houston. ... Honeysuckle for a
minute and a half.

SC We can't tell us much then, can you?

CC No, Pete, but I'll tell you what we've got
here. We've got all the checklist changes put together in a
little package. There's about 11 of them that should bring
the activation checklist up to date. Rusty's working on the
questions on the probe. And if you like, we'll hold that
off to stateside. We're also planning a private conference
before Madrid, which will be coming up at 00:40:00.

SC Okay. Whose the private with?

CC Okay. It'll be with the surgeon.

SC All righty.

SC If you could go ahead, maybe - -

Yeah, let me get an activation checklist of my dumps while I
have just finished breakfast, and I'll copy some of this.

CC Okay. And the computer's yours, too.

SC Okay. How about battery A, has that got a
good enough charge on it, yet?

CC Okay. We want to let it continue to charge.

And ah - We've only got about 15 seconds left here (static)
at Goldstone, which is coming up at 00:18:00.

CC I'll repeat. Goldstone at 00:18:00.

SC Okay. Roger.

PAO Skylab Control, Houston, at 14 hours
52 minutes GMT. We've just had loss of signal with Honeysuckle.
The next station to acquire over the States will be Goldstone,
approximately 26 minutes from this time.

END OF TAPE

SL-11 MC74/1

Time: 10:02 a.m. CDT, 1:02:02 GET

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PAO Skylab Control Houston, at 15 hours
2 minutes Greenwich mean time. The private conversation
referred to by CAP COM Henry Hartsfield during the up coming
Madrid pass is the routinely scheduled surgeon crew conversation
set up on a daily basis. A medical bulletin will be released
later. We're at 15 hours 3 minutes Gmt. This is Skylab
Control, Houston.

END OF TAPE

SL-II MC75/1

Time: 10:17 a.m. CDT, 1:02:17 GET
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PAO Skylab Control, Houston at 15 hours 17 minutes Greenwich mean time, approximately one minute away now from acquisition through Goldstone. The Skylab workshop presently in a orbit of 238.9 nautical miles by 235.1. During the stateside pass we expect checklist changes.

PAO Standing by now for Henry Hartsfield's call up to the crew.

CC Skylab Houston stateside for about 11 1/2 minutes.

SC Okay we're ready to copy. We've got the activation checklist open. Be advised that we've pressurized the tunnel and we had very little leakage on it last night, maybe a tenth of a psi. So we got a good tunnel and we're standing by for your word.

CC Roger. Copy. The first item is on page A-3, that's a little time line we put in the front of the checklist.

SC Up there that's mission day 2. Go ahead.
CC Okay there is just a typo there on the M168 relocation. It gives you page 2-12; that really should be page 2-121.

SC Okay, whose column is that in?

CC SPT column.

SC Yeah, and it should be 2 dash what?

CC 2-121.

SC Okay. We got it.

CC Okay the next one is on page A-5.

SC Go ahead.

CC And the CDR column all the way at the bottom of the page the quiescent configuration - we just want to write a little note there Pete to the effect that do not configure panel 275 until all battery charging is complete.

SC Understand.

CC Okay. The next one is on page A-10.

SC Go ahead.

CC Okay step 6. The TV input station 320 should be 133. The same thing applies to step 7 that should be panel 133. Okay after step 10 we want to add a step 10-A that says VTR power switch on.

SC Okay.

CC And step 12, second line, that panel 320 should be 133. And in addition after VTR standby we want to add VTR power switch OFF.

SC We've got it.

CC Okay next one is on A-13.

SC Go ahead.

CC Okay. The first two lines up there should be changed to read connect CWG electrical harness to CCA.

SL-11 MC75/2

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SC Okay.
CC Okay. A-15. On the stowage location for 16 millimeter cassette takeup it should be VOX 524 instead of 527.
SC Okay. Got that one.
CC Okay now if you'll jump over in activation checklist to page 2-18 -
SC All right go ahead, E MEMORY DUMP?
CC Roger. After the E MEMORY DUMP there we want a note to the effect that after guidance has given a GO on the E MEMORY DUMP, perform P06, program 06, CMC POWER DOWN and that's on page 2-78.
SC Okay.
CC Okay the next one is on page 2-29.
SC Go ahead.
CC Okay we want to delete the last line of step 2 which reads panel 311 pressure equalization valve OPEN, we want to leave it CLOSED.
SC Okay.
CC Okay. The next one is on page 2-42; these are the changes to your ATM panel configuration, command changes, -
SC Okay, go ahead.
CC Okay about halfway down the lefthand side where it says mode talkback solar inertial it should be CMG.
SC Roger.
CC Okay, righthand side status word 2, counter 1 indicator should be 0353.
SC Okay.
CC Status word 4, counter 2 should read 1000.
SC You cut out Hank. What was the (garble) switch.
CC Okay, 1000. Did you copy?
SC No. Say the checks both once again, Hank.
CC One thousand, 1000.
SC Okay.
CC Okay on the rate gyro monitor Y should be 3/1.
SC Okay.
CC Okay the next one is on page 2-43, right under the last item that we've got pinned in there about the hold for 25 seconds, we want to add EVA AUTO DOOR SWITCH to STORAGE.
SC Okay.
CC Okay the next one is on page 2-50.

SL-II MC75/3

Time: 10:17 a.m. CDT, 1:02:17 GET

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SC Break, break. What have you got for us on the probe. I'm scared we're going to get all this stuff in and not get the probe stuff where we can get in there.

CC Okay we've only got a couple items, Pete, and then Rusty has got some words for you on the probes.

SC Okay.

CC Okay on page 2-50 we don't want you to close the hatch channel. We'd like for that to read Don CHARCOAL MASS and then just place the hatch over the opening.

SC Okay.

CC And the last one is on page 2-60. On the circuit breaker configuration, panel 614, on the righthand side on duct 3 fans we want to keep all those open - the four duct 3 fan circuit breakers, we'll only use 8 fans.

SC That's affirm.

CC Okay and Rusty has got some words for you on the probe.

CC Okay Skylab we've got 3-1/2 minutes here left in the pass for your information and let me tell you what we want on the probe. There is a general caution note - I don't know who is going to do it - but when you collapse the probe for removal be aware of the fact that it may come completely free of the drogue right at that time.

SC Okay we are guessing that it will.

CC Right. That's what we're guessing also. Okay when you get up in there Pete what we're interested in finding out is what is the clocking of the center shaft latch on the aft end of the probe relative to the CSM axes. If you - what we're recognizing is pressing on with a normal probe removal checklist but before you do anything look at the flats on the center shaft and give us your orientation. And a good reference, by the way, is systems checklist page 2-10, gives you a look at the back end of that whole probe and you can reference the flats to that.

SC Okay. Now you don't want us to put the pyro cover back on with all the handles, huh?

CC Pete, we don't want it to go back on permanently at this time but if that helps to determine the orientation go ahead and do it, then take it off and then go through the rest of the probe collapsing and removal.

SC Okay.

CC Okay now -

SC Rusty, the picture I'm looking at has the cover on and I'm not ~~sure~~ I know what flats you're talking about?

CC Okay, Paul, the shaft - it's a circular shaft with a flat on each side and what we're recommending

SL-II MC75/4

Time: 10:17 a.m. CDT, 1:02:17 GET

5/26/73

in a way is if you can draw a perpendicular through those flats and then give us the clocking of that line with respect to the command module or that diagram on 2-10, either one.

SC All right.

CC Okay. Now the only other things we want, when you vent the probe, is when you press the button to bleed the nitrogen out keep watching that shaft and let us know if it rotates. There is a possibility that it may rotate 30 to 40 degrees. We don't think it will but we would like to know if it does.

SC Unfortunately we vented it last night.

CC You vented the probe itself or the tunnel?

SC No we checked the docking latched, by the way it made all 12 of them and in the process of doing that we went ahead and bled the probe. And I have the feeling that you're right. Joe said the probe was quite free in there after he bled it and I have the feeling that the whole probe is just loose in there and we do not have any capture latches.

CC Roger. If you did then all we can get from you is the clocking of the shaft before you - Okay we're going to have LOS in about 15 seconds. We'll pick it up GARBLE in about 1 minute.

CC Skylab Houston how do you read?

END OF TAPE

SL-II MC-76/1

Time: 10:30 a.m. CDT, 1:02:30 GET
5/26/73

CC Skylab, Houston.
SC Go ahead.
CC Okay, we got about 5-1/2 more minutes
now through Bermuda, and for your info, the med conference
over Madrid has been scrubbed.
SC Okay, we're all healthy. And let's
hear from Rusty some more on that probe. We didn't catch
your last remark.
CC Okay.
CC All right. It sounds as though, since
you've already vented the probe, that the thing we're
looking for is the clocking on the center shaft, and other
than that - and the caution about the probe being free, you're
to press on with a normal probe removal as per the activation
checklist.
SC All right. And what's your opinion on
if we had to undock? How we'd go about doing it? Do you
think we could get the capture latches to cock?
CC Okay, we're thinking about that, Pete,
and we have a considerably longer procedure on verification
of the probe capability, that will come later in the mission
that'll answer that question specifically. One further comment
on the probe removal, and that is: In your judgment you'll
have to look at the back end of the probe, and if you feel
that it's going to be safer removing it with the pyro cover
back on, that is avoiding sharp edges, feel free to do so and
let us know.
SC Okay. Stand by for the clocking. Pete's
looking at it.
CC Roger.
SC Houston, Skylab.
CC Go ahead.
SC Okay, the line perpendicular to the
flatch on that rod is rotated 15 degrees counterclockwise
from the plus-Z axis as we view it. Or from the Z-axis, I
should say.
CC Okay, understand. If you stand by just -
15 degrees counterclockwise from the Z-axis, and that's
counterclockwise looking up at the probe from down in
the command module?
SC .hat is correct.
SC (garble) talking about the removal (garble)
CC Roger. It has systems 2-10. Let me just
verify. In other words, you're saying that the - that that line
is essentially over the ratchet handle. By the extension of
the line you just talked about, it's over the ratchet handle.
SC That's right (garble).

SL-11 MC-76/2

Time: 10:30 a.m. CDT, 1:02:30 CET
5/26/73

CC Okay, fine. Thank you. We have it, and
go ahead and proceed with the removal then.

SC Okay, but that now, Rusty, is the line
perpendicular to the flat.

CC Roger; we understand. That's the
line perpendicular to the flat. Thank you.

PAO Skylab Control, Houston. We've been
listening to Backup Commander Rusty Schweickart chat with
the crew about the probe. Presently sitting at the CAP COM's
console - -

CC Skylab, Houston. We're about 40 seconds
from LOS. We'll pick you up over Madrid at 40.

SC Return at 40.

SC Did you read comm check on that one?

CC Roger. We heard Houston's comm check;
we read you loud and clear, thank you.

CC Copy.

END OF TAPE

SL-II MC-77/1

Time: 10:39 a.m. CDT, 1:02:39 GET
5/26/73

CC
7 minutes.

Skylab, Houston, through Madrid for

SC Okay. We've got the probe out and the capture latches were not engaged.

CC Roger. Understand.

PAO That's CAP COM Henry Hartsfield speaking to the crew aboard Skylab on this Madrid acquisition, Paul Weitz responding to that call.

SC Okay, Houston. Here's a data plate for you, 2 capture latches are out and one capture latch is stuck in.

CC Roger. Copy.

SC Hey, Houston.

CC Go ahead.

SC Another data plate on that probe. It turned out that that one was squashed and the little ear, when I kicked it, it came up. It looks, to me, like 2 of them had captured and this one, for what ever re- you can tell better on the ground than I can. It would not come up and allow the little lever to trip and lock it. It looked like something was out of sequence with the trigger on that latch.

CC Roger. Copy.

SC Now. We've got all three capture latches latched and if I push on the end of the probe, it will release all three capture latches, they'll all fold and then pull them all down. Now let's push that up. Now let it go, they should all lock.

SC All down?

SC Yeah. Two of them are up and the third one is stuck down and I can't answer for you, why, and so is the little center button stuck down.

CC Pete, let me make sure I understand you. You went through your little sequence there, at one point you had all three capture latches out and you then tripped it again, and they went in and one of them stayed in and the button is - on the end of the probe is also staying depressed.

SC ~~With me Rusty?~~

CC ~~Pete, do you read?~~

SC Yeah, go ahead.

CC Yes. Did you read my summary there? Did it agree with what had happened?

SC No, I didn't read your summary, let me give it to you again. When we took the probe out, 2 latches were out and they were out, but apar - (loss of comm) - Push the plunger in the end of the probe - -

SC Capture latch released.

SL-II MC-77/2

Time: 10:39 a.m. CDT, 1:02:39 GET

5/26/73

SC Capture catch released, but left side button, it sticks in now; and the one latch, capture latch stays flush and the other two pop up.

CC Okay, Pete. At one point you mentioned also, that the one that was flush, popped out when you kicked the trigger on it, is that correct?

SC Well, that's what I thought, but that's what's not doing it now.

SC Yes it is, too.

SC I take that back, it is. Paul just did it and it came up.

CC Okay. I'll tell you what, we're going to digest all that, Pete, and the boys in the backroom will be working and we'll probably come back to you at some later point. I suggest just going ahead with the time line.

CC And one further question. What's the status of the pyro cover? Did you put it on, or do you still have it off?

SC It's off.

CC Okay, fine. We'll assume it'll stay off, then and you're going to let us know where you stow it temporarily?

SC Yeah. We'll put the pyro cover in with the probe in the bag.

CC Okay, thanks.

CC Skylab, Houston. We're about 40 seconds from LOS. We'll pick you up again at Honeysuckle at 2.5.

SC Okay.

PAO Skylab Control, Houston, at 15 hours 52 minutes Greenwich mean time, our next station to acquire will be Honeysuckle. We're out of range, now with Madrid and that will be approximately 34 minutes from this time. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-78/1

Time: 11:04 a.m. CDT, 01:03:04 CET

5/26/73

PAO Skylab Control, Houston; 16 hours 4 minutes Greenwich mean time. During our Madrid pass, we had a momentary communications dropout. However, we have recovered the tape, and we'll play that tape for you now.

CC Yes. Did you read my summary there; did it agree with what had happened?

SC No, I didn't read your summary. Let me give it to you again. When we took the probe out, two latches were out. Add they were out, but apparently not locked. One was flush. Okay. Now, if we push the plunger in the end of the probe - -

SC Capture latch release - -

SC - - capture latch release left side, but it sticks in now, and the one latch, capture latch, stays flush, and the other two pop up.

PAO Skylab Control, Houston. That completes our tape playback.

END OF TAPE

SL-II MC-79/1

Time: 11:24 a.m. CDT, 01:03:24 GET
5/26/73

PAO Skylab Control, Houston, at 16 hours 25 minutes Greenwich mean time, less than a minute away now from acquisition with Honeysuckle. The Skylab presently in an orbit of 239 nautical miles by 235 nautical miles. We will stand by to pick up conversation at that time when CAP COM, Henry Hartsfield, calls up the crew of Skylab.

CC Skylab, Houston, to Honeysuckle for about 9 minutes.

CC Skylab, Houston, to Honeysuckle for 9 minutes.
SC Roger, Houston. And be advised we had a MAIN A undervolt, which sucked the voltage down to about 25 volts, and it turns out to be a heater cycle, as best we can determine it. We must have had all the heaters on at one time. If you can look at your low bed rate, if you'd add that on, maybe you can come up with a better scheme for configuring these heaters for us. We just spent 10 minutes sorting that one out.

CC Roger.
SC And we've got about 5 minutes to go on the TDI sampling. We've gotten out sample and we're waiting the 15 minutes.

CC Roger; copy. And we got a couple of things for you too. It looks like we missed a couple of checklist changes here that we should have gotten.

SC Okay, hold it, and let me bring you up. We've got the secondary glycol evap dried out and the primary evap is on its way. Would you like E-memory dumped?

CC Stand by.
CC While we get set down here, we're - just for your information, we're going to do a CMG reset at 16:33 at about 6 minutes from now. Maximum excursion, we expect, is about 35 degrees in roll and 5 degrees each in pitch and yaw.

SC Okay. Go ahead with your checklist changes.
CC Okay, on page A-9, we had a comment earlier about whether you want to close the latch handle, the hatch handle, and that same comment applies there. On panel 312, we just want that to read to close the hatch.

SC Okay, just close the hatch; don't lock it, is what you're saying.

CC We don't - well, we had you closing the hatch handle then laying the hatch over on the dogs. We didn't want to do that, we just want to strick that out so it just says close the hatch.

SC Oh, okay.
CC But don't lock the hatch. And we're ready for the E-memory dump any time.

CC And the only other checklist change we got for you is on page 2-51.

SL-II MC-79/2

Time: 11:24 a.m. CDT, 01:03:24 GET
5/26/73

SC Who's it for?
CC That's for the PLT.
SC Ready.
CC Okay, there on panel 390 in the aft lock activation, we want to turn heat exchanger pans 1 ON. And the reason we're doing that, Paul, is we want to stir up the air there prior to getting a sniff sample there.
SC The F-MOD's coming at you.
CC Roger.
SC Okay, Joe, you want the number 1 fan, or do you want them all on?
CC Just the number 1.
SC Okay. And we chose - like you to look at how we got that great big load on MAIN A because, as we remember at it, it just sort of kinda of took care of itself there. We were turning heaters on and off. But whatever heater cycle it was on, or maybe you'll see something on the data, but I'll tell you, we had one big load on that bus for a minute.
CC Roger. We'll take a look at it.
CC And, for info, our attitude plan is, after we do the CMG reset here at Honeysuckle - at Hawaii, we're going to command a small pitch maneuver to get a little more power in preparation for activation.
CC Roger.
SC And, Pete, we got one more probe question for you here in trying to psyche this one out.
SC Go ahead.
CC Okay. If the probe is not bagged yet, if you'll look, minus X along the probe and using the strut with the yellow end on it as a 12 o'clock reference, I wonder if you could give us the clocking of the capture latch which is sticking in.
SC Hey, Rusty, on page 2-11 is the one you can't see on that picture.
CC Okay, I've got it. And let me ask you another question. Have you rotated the head of the probe? Or do you think it's the same as it was for docking attempts?
SC We haven't touched that, and I'm sure it's the same. It's just the way we took it out of there.
CC Okay. Fine. So that's - looking in the direction, I was saying that's something like 7 or 8 o'clock.
SC I don't know. It's in the bag now.
CC Okay, fine. We've got it. Thank you.
SC (Garble), Houston.
CC Go ahead.
SC Okay, we passed the TDI monitor check with flying colors. It's pure white. Nothing that we could see at all.

SL-II MC-79/3

Time: 11:24 a.m. CDT, 01:03:24 GET

5/26/73

CC

Roger; copy. That's good news.

SC

And we're on our way to the MDA. I wish I had a poloroid picture to send down to you guys from the inside of this command module with three suits, all that gear, a drogue, a probe, and a hatch, Joe, Paul, and Pete.

CC

Roger. I'd like to see that myself.

SC

It's unbelievable.

CC

Okay, the CMG maneuver is coming up and we got the E-memory dump; you're cleared to do the power down now.

SC

Okay, going to P06.

END OF TAPE

SL-II MC-80/1

Time: 11:35 a.m. CDT, 1:03:35 GET
5/26/73

CC And, Pete, if you have the docking
index angles available, we'd like to get those.
SC It's minus 1.5.
CC Roger; copy. Minus 1.5.
CC Skylab, Houston. We're about 15 seconds
from LOS. Looking good going over the hill. We'll see you
at Hawaii at 45.

SC Okay, we've done the E-Mode. The (garble)
is deactive and (garble) proceed the MDA hatch opened.

CC Roger; copy.
SC Paul just went in, and he said it's
very cold in there with the (garble).

CC 50 in there, I think.
SC Yeah, boy, and it looks great. He just turned
on the lights.

PAO Skylab Control, Houston, at 16 hours
35 minutes ground elapsed time. We've just had loss of sig-
nal with Honeysuckle. Hawaii will be the next station to
acquire. We heard the rather lengthy discussion over Honey-
suckle with the crew aboard Skylab, Pete Conrad reporting the
TDI sample tube completely white. At that point they pro-
ceeded to open the hatch to the multiple docking adapter. You
heard the remarks that it was quite cold in there, in the order
of 50 degrees. The lights in the multiple docking adapter
apparently working. The main A undervolt, referred to as in
the command service module, Conrad speculating that possibly
a configuration of all the heaters on at once could have
caused this. This data will be looked at on the ground.
Meanwhile, as we approach Hawaii, a maneuver is planned to
pitch the vehicle down 11 degrees to an attitude of 36 degrees,
and this providing for a better electrical power system, which
will be utilized in the course of the activation today. This
pitch-down maneuver has been computed by the EGIL flight controller
in the Mission Control Center, and the command will be given
by the ASCO console. We're at 16 hours 37 minutes Greenwich
mean time, and this is Skylab Control, Houston.

END OF TAPE

SL-II MC-81/1

Time: 11:44 a.m. CDT, 1:03:44 GET
5/26/73

PAO Skylab Control Houston, at 16 hours 45 minutes Greenwich mean time approaching acquisition now with Hawaii. As we last saw the Skylab vehicle over Honey-suckle the multiple docking adapter hatch was just being opened and the pilot Paul Weitz was proceeding inside as the activation of the orbital workshop was at it's very beginning. Standing by now for acquisition.

CC Skylab, Houston to Hawaii for 9-1/2 minutes.

SC Okay Houston, we're in the MDA and we're pretty busy. I'm working on (garble) and we're jumping around a little bit to try and clean up the command module because we got so much stuff in it. So we're moving the probe and drogue at this place. Be advised that nobody has had any trouble so far in the MDA. And be advised to tell the doctors that we did not in fact try our motion sickness pills this morning because none of us felt like we needed them.

CC Roger, copy.

SC Also we've got a window shade dump. And the command module is really beginning to pick up water on the inside of it I noticed. Our side hatch has got quite a bit of moisture on it and so do our windows. Just generally picking up moisture all over. But now that we've got this MDA dry air I think maybe that will help a little bit.

CC Roger, copy.

CC Skylab, Houston. The pitch maneuver's in work, should be about 11 degrees.

SC Okay, we're going to (garble) this up up here so you guys can maneuver away to your hearts content.

SC So far we've collected one screw, one nut, and one piece of red thread floating around in the MDA otherwise it's clean as a whistle. It's very nice.

CC Roger, copy.

PAO That's commander Pete Conrad reporting on the status of the multiple docking adapter inside.

PAO Skylab Control Houston, the Skylab crew now inside the multiple docking adapter as the activation process has started.

CC Skylab, Houston, whenever it's convenient we'd like to get a reading on the CL sample.

SC Okay, Houston, it was about 5 parts per million.

CC Roger, copy.

PAO Very little conversation with the crew at this time. Apparently preoccupied and busy as - as they start through their checklist.

CC Skylab, Houston, we're about 15 seconds from LOS. We'll be picking you up at Goldstone at 57.

SL-II MC-81/2

Time: 11:44 a.m. CDT, 1:03:44 CET
5.26.73

SC Okay Houston, the MDA Doc is in
the command module and the suit circuit is deactivated.

CC Copy.

PAO Skylab Control Houston, we've had loss
of signal with Hawaii. We should be picking up Goldstone
in approximately 2 minutes.

END OF TAPE

SL-II MC-82/1

Time: 11:55 a.m. CDT, 1:03:55 GET
5/26/73

CC Skylab, Houston. Stateside for 5 minutes.
PAO Skylab Control, Houston, standing by
now for acquisition there with Goldstone. The five parts
per million CO referred to in that test is well within acceptable
limits.

SC Roger, Houston, and we may be off the
air here. We're going through umbilical connect crap and so
forth.

CC Roger.
PAO Skylab Control, Houston, at 17 hours
2 minutes Greenwich mean time. A very little conversation
with the crew as they're continuing through the checklist as
the activation inside the multiple docking adapter continues.

END OF TAPE

SL-II MC-83/1

Time: 12:06 p.m. CDT, 1:04:06 GET
5/26/73

PAO Skylab Control, Houston. We've just had loss of signal. Our next station to acquire will be Newfoundland.

PAO As the activation of multiple docking adapter proceeds, Commander Pete Conrad presumably is spending much of his time inside the command and service module, squaring things away at that point, while Kerwin and Weitz, we would expect, are mainly preoccupied with the MTA activities. We're at 17 hours 7 minutes ground - Greenwich mean time. This is Skylab Control, Houston.

CC Skylab, Houston through Bermuda for 7- $\frac{1}{2}$ minutes.

SC Okay, Houston. We're hooking up umbilical for SPS PT configuration check's been made; those guys are pressing on.

CC Roger, Copy.

PAO That was Commander Pete Conrad responding from the command module, stating that Kerwin and Weitz are pressing on.

PAO Henry Hartsfield, our CAP COM, here in Mission Control.

PAO Skylab Control, Houston, at 17 hours 13 minutes Greenwich mean time. About 2 minutes 45 seconds remaining on this pass over Bermuda. The activation of multiple docking adapter continuing with Kerwin and Weitz working inside. and meanwhile, Commander Pete Conrad remaining in the command and service module. We'll stand by and continue to monitor the conversation that takes place during this pass.

CC Skylab, Houston, we're about 1 minute to LOS. Be seeing you at Canaries at 17.

SC Roger, Houston.

CC Okay, no need to acknowledge. And for your info, we're playing back the data, now on the main A undervolt. We don't think it's a big problem at this point, but we are working on a plan. We'll have them for you later this morning and we may want to change some switches and bus setups in the command module.

SC Yeah, that's what we finally concluded - that it wasn't just sure we got too many heaters or some - -

PAO Skylab Control, Houston. We've had loss of signal with Bermuda. The next station to acquire is Canary in less than one minute. We'll stand by and continue to monitor. Meanwhile, the crew aboard Skylab continuing to press on through the activation, Weitz and Kerwin, presently in the multiple docking adapter; Pete Conrad communicating with the ground through the command and service module. It appears at this point, the Skylab Crew very much on their time line for the activation.

END OF TAPE

SL-II MC84/1

Time: 12:17 p.m. CDT, 1:04:17 GET
5/26/73

PAO It appears at this point the Skylab crew very much on their time line for activation.

CC Skylab Houston through Canaries for about 15 minutes.

SC Okay, Houston.

PAO Skylab Control, Houston, at 17 hours 23 minutes Greenwich mean time. Almost no conversation with the crew during this pass. The crew most preoccupied at this point as they go through their checklist for activation.

PAO Skylab Control, Houston. The EGIL flight controller reports, looking at his data that the caution warning system is working in good shape aboard the MDA. Very little conversation over the flight director's loop at this point, controllers monitoring their consoles, watching data as it appears.

SC Hello.

CC Hello.

CC Skylab, Houston, you called?

PAO We heard the callup from Pete Conrad to conjecture here. He was -

CC Did you call?

PAO The conjecture here that he was trying to reach Weitz and Kerwin via the comm loop in the workshop.

SC Say Houston, Paul wanted me to tell you he's got a primary coolant temp low. Is that to be expected?

CC Standby 1. Roger that's expected. Temps are running real low down there in the MDA.

SC Okay the other thing is I've gone all the way through the complete hookup and includes panel 230 CSMs with (garble). It actually got in a barber pole and none of our SIA's need to talk to one another down there.

CC Roger, we copy. During one of those checkouts we heard someone say hello, hello there on the transmitter, I guess.

SC That was me, Jim, sitting on VOX 98.
That doesn't count.

CC Okay.

CC Houston.

SC Go ahead.

CC Those SIAs aren't going to work until you get down to the page 233 there for the PLT where he puts the 8 audiocircuits in; closes those.

SC Okay.

PAO The SIA is the intercom system aboard the workshop.

SC We figured it was some place here.

SL-II MC84/2

Time: 12:17 p.m. CDT, 1:04:17 GET
5/26/73

SC Hey, Brad, SPT is about to start ATM
panel Y activation.

CC Roger, and I assume that all the items
previous to that have been accomplished.

SC That's affirmative.

PAO That report from Skylab that the Science
Pilot, Joe Kerwin getting ready to start the Apollo telescope
mount activation, moving well along now into the time line.
We presently show a Greenwich mean time of 17 hours 32 min-
utes. And 1 minute 45 seconds until loss of signal with
Ascension.

CC Skylab Houston we're about a minute and
a half from LOS. Next contact is Carnarvon at 01 and at
Carnarvon we plan to uplink a test message to the teleprinter
and when you get that you can take a look at it and tell us if
it looks all right and then we'll be all set to send the pads
and the rest of the uplinks.

SC Okay.

END OF TAPE

SL-11 MC-85/1

Time: 12:33 p.m. CDT, 1:04:33 GET

5/26/73

SC How do you read from the MDA, Houston?
CC Okay, we're reading you, Paul. There's
a little squeal in the background. Looks like you're getting
some feedback from SIAs there.
SC Yeah. That was one of them. Okay.
CC Hey, you sounded real good then.
SC Roger. We're getting there.
SC PLT's on page 2-35.
CC Roger, copy.
SC The CDR's finishing up primary GLY ADAPT
DRYOUT, and I'll (garble) where the glycol circ reads (garble).
CC Roger. Copy.
PAO We just heard from Pilot Paul Weitz,
speaking through the intercom aboard the workshop.
SC Houston, Skylab.
CC Go ahead.
SC Never mind, we'll catch you later.
CC Okay. Well, I've got a few seconds to

LOS.

PAO Skylab Control, Houston, at 17 hours
34 minutes Greenwich mean time. We've just had loss of
signal on this Ascension pass. The next station to acquire
will be Carnarvon, and at that time, from the Mission Control
Center, we will do an initial checkout of the teleprinter
system aboard Skylab. This is Skylab Control, Houston.

END OF TAPE

SL-II MC86/1

Time: 12:59 p.m. CDT, 1:04:59 GFT

5/26/73

FAO Skylab Control, Houston, at 1800 hours Greenwich mean time. We're standing by now for acquisition of signal over Carnarvon. We presently show the workshop in an orbit of 240.5 nautical miles by 234.2 nautical miles. During this Carnarvon pass we should have the initial check-out of the teleprinter aboard the workshop. We'll standby now and continue to monitor any conversations as they develop.

CC Skylab Houston through Carnarvon and Honeysuckle for about 10 minutes.

SC Roger, Houston. How do you read?

CC Roger, read you loud and clear.

SC GARBLE okay the CDR has completed the command module configuration through CMO2 systems config and I just completed the caution and warning checkout on the GARBLE except for 392. And we're waiting right now to go into the lock and the OWS; we're configuring for that.

CC Roger and we do have things we'd like for you to set up in the command module. Are you up there now?

SC Yeah, but what do you want set up in the command module?

CC Okay we've looked at this heater problem; we think you've already powered down enough things that you're probably not going to get that undervolt again. However, we would like to go ahead and reconfigure the heaters. We were going to do it tonight anyhow but we'll go ahead and do it and then we'll be doubly sure that we probably won't get another undervolt, if you want to do that now.

SC Okay, if you'll wait 2 seconds I'll take you down into the command module and you can tell me what to do.

CC And Skylab for information we're going to command the fill valves closed according to flight plan.

SC Okay and I'm down in the command module now. Could you tell me what you want done?

CC Okay, panel 226; circuit breaker 02 fifty-watt heaters Main A, tow; MAIN A OPEN.

SC Was that two breakers?

CC That is tank 2, MAIN A.

SC Are you with us Houston?

CC Okay, we're in a hole right now between Carnarvon and Honeysuckle. How do you read?

SC You're right it was 251 OPEN, right,

MAIN A?

CC Positive, tank 2 MAIN A OPEN. On 50 watt.

SC That's done.

SL-II MC86/2

Time: 12:59 p.m. CDT, 1:04:59 GET
5/26/73

CC Okay on panel 2.
SC Yeah.
CC Okay our H2 heaters, one, OFF. O2 heaters,
one, OFF. And H2 fans, one, OFF and H2 fans, two, OFF.
CC Skylab how do you read me?
SC (static) are you going to (GARBLE) us
1? Hello, hello.
CC Skylab Houston we're in a key hole now.
If you'll hang on a second or two.
SC GARBLE.
CC Okay, I think we're pretty good now, how
about you?
CC Okay. On panel 2 that was H2 heaters, one;
O2 heaters, one, OFF. That was two switches.
SC Okay, H2 heater, one, and O2 heater, one,
are OFF.
CC Okay and H2 fans 1 and 2, OFF.
CC CDR did you copy that last on the H2 fans?
SC Where'd you disappear to that time?
CC I don't know. Did you get the H2 fans
OFF?
SC I got the H2 fans OFF, yeah.
CC Okay. That's it.
SC Houston, SPT.
CC Go ahead.
SC Okay on the panel activation I suppose
you know, but I want to be reassured that we have a power
system alert light, a bat charger alert light, the battery
and charger lights on CBRN 15 are ON and the - our charger -
the bat charge bat volts and reg volts talkbacks are all
barberpoled. Does that jive with the power problems that
you've got?
CC That's affirmative. That all jives, Joe.
We've lost that CBRM.
SC Okay and I did not connect the CBRM an-
tenna because my assumption is we aren't going to use the -
I don't mean CBRN or FNRBM, the noise burst monitor. Now
I'm ready to do the DAS test if you are.
CC Okay standby the DAS test. We agree
with the other things you said.
SC Glad you can understand them.
CC SPT, Houston.
CC SPT, Houston.
SC (Static) (Garble).
CC SPT, Houston. I'm reading you broken.
We would like for you to go ahead and configure for the
GARBLE. We are not going to use it. We'll correct that but
we would like to get it connected up.

SL-II MC-87/1

Time: 1:22 p.m. CDT, 1:05:22 GET
5/26/73

CC Houston through Hawaii for 9 minutes.
SC Roger, Houston. Paul's down turning
on the fans in the OWS at this time. Joe is monitoring him
(garble) further word for you on that in just a minute. I
can see Paul is on his way back up now.
CC Roger; copy.
PAO Hank Hartsfield talking to Skylab
through Hawaii.
SC Your teleprinter message came through.
It's kind of faded at the end. I hope they come through better
than that.
CC Do you mean that all the message
wasn't there, or it just printed rather weakly at the end?
SC It printed rather weakly at the
end.
SC Okay, Paul is out. He's closing the
(garble) lock hatch at this time.
CC Copy.
PAO Skylab Control, Houston. That's Paul
Weitz who's taken off the airlock module aft hatch. Entered
the orbital workshop and appears to have activated the fans.
CC Skylab, Houston. For information we're
going to have to do another CMG reset here. Be coming up
in a couple of minutes.
SC Okay, Houston. What's the problem?
We've had two ACS malfs here in the last couple of minutes.
CC Well, the CMGs are saturated now (garble).
SC Okay, all right. Are you ready for
the DAS test yet?
CC Roger.
SC Okay, here comes a (garble).
CC Skylab, Houston. We just want him to
TACS on the control mode.
SC Did you do that?
CC Negative, I think it went out
20 degrees in attitude to cause it, and we'd like for you
to stay off the DAS while we command the system.
SC Roger.
CC Skylab, Houston. We're about 1 minute
from LOS. Goldstone coming up at 35.
SC Roger. Do you still want us to stay
off the DAS?
CC Okay, you can clear the caution on
your ACS malf, and we'll be standing by for Goldstone for
the DAS checks.
SC Okay.
PAO Skylab Control, Houston. We're about
a minute and a half away now from acquisition by Goldstone.

END OF TAPE

SL-II MC-88/1

Time: 1:34 p.m. CDT, 01:05:34 GET
5/26/73

CC Skylab, Houston through Goldstone for 6 minutes.
SC Hello.
SC Hello, Houston, we hear you.
CC Okay. Read you loud and clear.
SC Hey, Houston; PLT.
CC PLT, go ahead.
SC Okay, on our very quick inspection, the
OWS appears to be in good shape. It feels a little bit warm,
as you might expect. From the 3 or to 5 minutes I spent in
there, I would say, subjectively, it's about - it's a dry
heat, I guess. It feels like 90 to a 100 degrees in the
desert. Hank, I could feel heat radiating from all around
me, but in the short time I was in there, I never felt un-
comfortable. I had the soft shoes and the gloves on, and
nothing I touched even felt hot to me.
CC Roger; copy.
PAO It's Paul Weitz giving his first - -
CC SPT, are you ready for those DAS tests?
SC That's affirmative.
SC Okay, I'm going to give you 10,000.
Please acknowledge.
CC SPT, you got a GO on the first one.
SC Okay, here comes 20,000.
CC And, Paul, did you notice the duct flows
when you turned the fans on downstairs?
SC If you want numbers, I didn't notice
numbers. They came up to what I expected to be normal.
CC Okay; copy. And you have a GO on the
second one, Joe.
SC Okay, and did I get this fuse thing going?
Turned on eight fans down there.
SC You did want only eight fans turned on
for this, right?
CC And, SPT, you got a GO on the third one.
We wanted all twelve fans, but that's okay.
SC All right.
PAO We heard Paul Weitz's first assessment of
the Workshop.
CC SPT, you got a GO on number 1.
CC SPT, GO on number 2.
PAO Meanwhile, Science Pilot, Joe Kerwin, making
an initial checkout of the ATM digital computer.
CC A GO on number 3.
CC And you have a GO on number 4. All look good.
SC Okay, thank you. And, Hank, it looks as
if CPRs 15 came off the line again. Is that right?
CC Roger; we concur. I think we still got
troubles with it.
SC Okay.

SL-II MC-88/2

Time: 1:34 p.m. CDT, 01:05:34 GET
5/26/73

SC And by the way, Houston, this is SPT. I take it you didn't have any changes for me on page 2-38 for addition.

CC That's affirmative; no changes there. And if you want to clear that BATT VOLTS light, I guess you can turn the charger and reg off - -

SC Okay.

CC - - and number 15 there.

SC Okay, (garble).

CC And, Joe, while you're there, do you have any other talkbacks on the fire system that look like they might be out of kilter?

SC CDR says the fire detection system checked out 40.

CC Roger; copy.

CC Skylab, Houston. We're about 10 seconds from LOS; we'll pick you up again over Bermuda at 45.

END OF TAPE

SL-11 MC-89/1

Time: 13:45 p.m. CDT, 1:05:45 GET

5/26/73

CC Skylab, Houston, through Mila for
10-1/2 minutes.

SC Gosh Houston, we're just (garble)
your checklist here.

CC I didn't copy that last. Would you
say again?

SC By gosh, we're just logging along
on the checklist here and we're gonna (garble) TDI sampling
in the OWS area after awhile.

CC Roger, copy and for - Joe if you
are still at the ATM console, we would like for you to stay
off the DAS. We're gonna - we think the reason that our
momentum is building up is we're a little bit out of plane
so we're gonna command a Z rotation.

SC Okay, you got it.

PAO This would be a pitch down of some
6 degrees; this maneuver coming up. ASCO will be the flight
controller putting in the command.

PAO Skylab Control, Houston, at 18 hours
and 48 minutes Greenwich mean time. We heard from commander
Pete Conrad reporting that they're moving well along on the
time line. Paul Weitz has been inside the workshop. He
gave a very good description of the temperature inside.

CC Skylab to the CDR.

SC Houston, SPT.

CC Go SPT.

SPT Roger, I'm not sure if it's okay for
me to go ahead with pages 2-42 and 2-43 or not with what
you guys are doing.

CC Stand by.

CC Okay Joe, the DAS is yours and also
we got a little message for the CDR.

SC Go ahead and I'll relay.

CC Okay, we goofed up a while ago and
didn't beat the quiscient checklist against our power
down on the panel 226, so next time Pete goes up there we'd
like for him to go to 226 and turn O2 heater number 2, 100
watt, close the main B circuit breaker.

SC Okay.

PAO That last comment refers to the heater
configuration aboard the command and service module.

SC Okay, Houston that was 100 watt O2 heater
2 MAIN B. Right?

CC That is affirmative.

SC It's on.

CC Thank you sir.

CC Skylab, Houston, we're about 1 minute
from LOS. We'll be picking up Ascension at 02.

SL-II MC-89/2

Time: 13:45 p.m. CDT, 1:05:45 GET
5/26/73

PAO Skylab Control Houston, we've had
loss of signal with Bermuda. Ascension will be acquired
by Skylab in approximately 6 minutes. We're now at 18 hours
56 minutes Greenwich mean time, this is Skylab Control Houston.

END OF TAPE

SL-II MC90/1

Time: 1:58 p.m. CDT, 1:05:58 GET
5/26/73

PAO Skylab Control, Houston, at 19 hours and 1 minute Greenwich mean time, less than a minute away now from acquisition through Ascension. This should be a long pass over the Ascension station, somewhere in excess of 10 minutes.

CC Skylab, Houston through Ascension for 11 minutes.

SC Roger, Houston; SPT. Over.

CC Roger. Go ahead.

SC Okay. In rolling the canister to unlock the GSE nitrogen purge fitting, the initial roll position was minus 1440 instead of 1350 per the checklist. I thought about it and went ahead and did the procedure, and it appeared to work very well. I then deployed the scan spec mirror to the unlock position per the red line checklist. And looked at the DAS counter 2 scan spec mirror position; it read 6901, which is garbage. I just thought I'd pass that along for evaluation and reassurance.

CC Roger. Copy.

SC I think it's because I don't have the experiment powered up yet.

CC That is affirmative. That's the reason, Joe.

SC Okay, and I'm about to sample TDI through the aft hatch.

CC Roger. Copy.

PAO Joe Kerwin reporting he's getting ready to sample the TDI through the aft airlock module hatch.

CC Skylab, Houston. We're going to be starting a pitch maneuver here shortly to get you 6 degrees more into the Sun for power, and we'd like you to stay clear of the DAS.

CC Skylab, Houston. Did you copy, reference the DAS?

SC No. Say again.

CC Roger. We're going to be commanding a maneuver in pitch, and we'd like to keep the DAS free.

SC Okay, it is. Joe is in sampling the workshop air right now.

CC Roger. Copy.

SC CDR is taking out the launch pins for the film vault, and the PLT is in the midst of his - getting ready for water separator (garble) wetting.

CC Roger. Copy.

CC Skylab, Houston. The DAS is yours.

SC GARBLE.

PAO Skylab Control, Houston; 19 hours 7 minutes Greenwich mean time. Science Pilot Joe Kerwin has been into

SL-II MC90/2

Time: 1:58 p.m. CDT, 1:05:58 CEI
5/26/73

the workshop taking samples. The crew moving well along in compliance with their time lines at this point.

END OF TAPE

SL-II MC-91/1

Time: 2:00 p.m. CDT, 01:06:10 GET
5/26/73

CC Skylab, Houston.

CC Skylab, Houston.

CC Skylab, Houston. (static) and set it at
19:21. It's just past 19:21 and it looks like you're GO for
(static).

CC Skylab, Houston.

PAO Skylab Control, Houston. We've just gone
out of acquisition range with Ascension. The next station to
acquire will be Carnarvon, some 22 minutes from this time.
The last message passed by Henry Hartsfield, which may or
may not have been heard by the crew, was a request to command
reset for a roll maneuver. Since we have been experiencing
some drift in attitudes, and to do this via the control
moment gyros versus the attitude thrusters would be highly
desirable from the mission point-of-view. We're at 19 hours
14 minutes Greenwich mean time, this is Skylab Control,
Houston.

END OF TAPE

SL-11 MC-92/1

Time: 2:26 p.m. CDT, 01:06:26 GET
5/26/73

PAO Skylab Control, Houston, at 19 hours 26 minutes Greenwich mean time, and 2:25 p.m. central daylight time. One point of clarification, when Paul Weitz first entered the orbital workshop, he was wearing a mask and was observed by Science Pilot, Joe Kerwin, during this time, through the hatch while he, too, was wearing a mask. The TDI CO sampling, which was done following this, took place through the aft airlock module hatch with no crewmember inside the orbital workshop. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-93/1

Time: 2:34 p.m. CDT, 01:06:34 GET
5/26/73

PAO This is Skylab Control at 19:34 Greenwich mean time, 30 seconds out from the Carnarvon, Australia, Tracking Station. A pass that will last about 10 minutes and 40 seconds. A short hop across West Irian and to the Guam tracking coverage. We should have acquisition at this time; we'll stand by for CAP COM's call.

SC Skylab, Houston through Carnarvon for 10 minutes.

CC Skylab, Houston. Do you have anything to report on the TDI sniff?

SC It's cooking. It's time (garble), Houston, and so far it doesn't look like anything, but we'll let it run its full (garble).

CC Roger; copy. And for the SPT, we just dug out some info and learned that the canister was launched with a roll of 14 30. So the reading he got was right on the money.

SC Okay. He's nodding his head, and if you're looking at the data, you may have just seen a note to (garble) the command module. We activated the water system again so that we could get some chew.

CC Roger; copy. And to help our pyro situation, I guess we'd like to get the OWS entry lights turned off there in the aft lock here while we're eating lunch - after you complete the sniff.

SC Okay, we'll get that as soon as we're done testing for TDI. I though I turned them off when I came out, Hank.

CC Okay, you may have. Yeah, he did.

SC If you think I'm not power conscious here, I thought I'd thought about it, and you guys caught me. And I have something else for you on the corner space tank dump system. (Garble) heaters when you're ready to listen.

CC Okay, go ahead.

SC Turn to procedure on pag wait until I find the page.

CC And we'd like for you to keep clear of the DAS for the next few minutes.

SC I'm within 3 feet of it. That won't hurt it, will it?

CC That'll be safe enough.

SC On page 119, Henry, he's preping for this - You ready to listen to me? You were talking about something else to somebody else.

CC Go ahead.

SC Okay. Anyway, apparently, on our corner space tank, it appears that the secondary vent heater did not work. I turned it on, and the light came on, and I came back

SL-II MC-93/2

Time: 2:34 p.m. CDT, 01:06:34 GET

5/26/73

and checked it about 20 minutes later. The temperature was reading zero. I cycled the circuit breaker. The light went out and came back on. I went to primary, and afterwhile its temperature came right on up. So I went ahead and did that dump, using the primary system. You might think about it and see what other readings you have on the ground, if any, and let us know.

CC

Roger; we copy.

SC

Also, I don't know, but I turned that heater off about 10 minutes ago, after having dumped through it, and the temperature is still pegged high, in excess of 150.

CC

Roger; we copy.

CC

Skylab, the DAS is yours.

CC

Skylab, Houston. For info, we're going to

be sending up via teleprint, hopefully prior to the stateside pass, some mod's to the parasol deployment checklist; so you'll have time to browse them over before you have to do it.

SC

Okay.

CC

at 49.

Skylab, Houston. One minute to LOS; Guam

SC

Okay. Stand by for the TDI results.

CC

Okay.

SC

change in color.

TDI level's okay. There's no discernable

CC

Roger; copy. That's good news.

SC

Smells like hot metal for some reason.

Smells kind of funny in there, though.

CC

Roger.

SC

Or it's from this vent on.

CC

Smell anything like butterscotch pudding?

PAO

This is Skylab Control. We've had loss of signal through the Carnarvon, Australia, Tracking Station. About 2-1/2 minutes to Guam. We'll leave this circuit up for that small jump across to the Guam station. At 19:46 Zulu and standing by, this is Skylab Control.

END OF TAPE

SL-II MC94/1

Time: 2:47 p.m. CDT, 1:06:47 GET
5/26/73

CC Skylab, Houston through Guam for
9 minutes.
SC Roger, Houston.
SC Roger. We'll have some (garble) results
for you in a couple or 3 minutes.
CC Okay. Standing by.
SC Hello, Houston.
CC Roger. Go ahead.
SC Okay. No detectable CO, according to
our tester in the workshop.
CC Roger. Copy.
SC We're going to close the hatch again
and eagerly awaiting your GO for entry.
CC Roger.
SC You want me to turn on those other
three spare, other four fans, Hank, or just let her run on
eight.
CC Stand by 1.
CC Okay, Paul. We'd like to just leave
it like it is now, and you can turn out the lights and go
on about your business.
SC Okay. That's complete; the lights are
out, and Joe's securing the airlock aft hatch, right
now.
SC And we're going to leave the airlock
forward hatch open. Consider the airlock is - the walk
compartment of the airlock is usable and livable.
CC Roger. We concur.
SC Hey, Henry. I've got one more question
for the ECS guys.
CC Okay. Go ahead.
SC Okay. I don't want to waste going
through one of these water separator plate wetting deals. The
dewpoint right now is 36 degrees. Is it going to do me
any good to wet the plates now and put them in?
CC Stand by 1.
SC Okay.

END OF TAPE

SL-II MC-95/1

Time: 2:55 p.m. CDT, 1:06:55 GMT
5/26/73

CC Standby one.

SC Okay.

CC Skylab, Houston. For Paul - well we'll go ahead and delay doing that right now. Looks like it's going to be quite awhile before we need the things. If it turns out that we do need them, it looks like the SPT may have some free time later to say it.

SC Yeah, okay. That's just a rather lengthy procedure and I didn't want to waste time doing it twice, that's all Hank.

CC Okay, and we got about 1 minute to LOS so we'll be coming up at Goldstone at 14.

SC Roger.

SC (garble) around here. Hey, something else for them to think about is since we got a late start we got about 2 hours and 45 minutes left to go in the bake out of bed 1. You ought to ask Vick what they want to do about bake out of bed 2.

CC Roger, copy.

SC Well, why don't we do it tonight or put it off until tomorrow morning on that one?

PAO This is Skylab Control. 19:59 Greenwich mean time. Loss of signal out of the Guam station. 14 minutes and a half until acquisition at Goldstone station in the Mojave Desert in California and a fairly lengthy stateside pass through most of the stations. During this just completed pass over Guam, Paul Weitz reported that there has been no change in the TDI level in the workshop. The sensor still came out white. He did comment that it smells like hot metal. OWS pressure holding now at 5.1 pounds. Weitz also reported that there's no detectable carbon monoxide in the workshop. And as they prepare for their lunch meal the crew will close off the workshop but consider the airlock module as a habitable area for the time being until activation of the workshop itself is complete. Currently the Skylab cluster is in an orbit measuring 235.1 nautical miles at Perigee, and 239.2 nautical miles at Apogee. Orbital period 1 hour 33 minutes and 22 seconds. At 20:01 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-96/1

Time: 15:13 p.m. CDT, 1:07:13 GET

5/26/73

PAO This is Skylab Control; 20:13 Greenwich mean time, which translates out to 3:13 central daylight time; 44 seconds now from a good solid state-side pass. We've got a LOS, now.

CC That's affirmative. It looks like you ought to be coming right up, or near, Seattle.

SC Okay. Mr. Weltz just recognized the world?

SC Oh yeah. And we'd like you to pass along to the Principal Investigator of ah - -

SC Pardon me, (chuckle) to Don Lind, that his experiment is in super shape.

CC Roger; copy.

SC We can see it out the window.

CC Skylab, Houston (garble) you notice any lights changing down on your CBRMs. We're managing 5 and 6. Because of the attitude, we're having trouble getting the batteries charged. So, we're just kinda switching them around. So, that would explain any lights that you see on those 2.

SC Roger, Houston.

SC Say, Houston, you with us?

CC That's affirmative.

SC We're getting ready to eat lunch. Waiting for your GO to go on into the workshop and it's my - contamination goes on any one of these 4 STS windows. They are just as clean as a whistle. They're as clean windows as I've ever seen in a spacecraft.

CC Roger; copy.

CC CDR, Houston. You're GO for entering OWS and the modifications of procedure should be coming up shortly.

SC Okay. We're going to go eat. It's kinda hard to get away from the windows, especially for the new boys.

CC Roger.

SC The Pacific Northwest is really something. Right now, we're over what appears to be a fairly major weather system with pretty good overcast clouds in the Montana, Dakotas region.

CC Roger; copy.

CC And for info, we're also going to be doing another CMG reset at 2:08, a nominal (garble).

SC Roger. We'll wait for all the clang, bang and the bells to ring.

SC Also, Hank, not having spent any great time at 237 nautical miles, why we passed some familiar landmarks like NAS Whimpy and a couple of other airfields. And we can see those runways pretty good. So, hopefully we'll do pretty

SL-II MC-96/2

Time: 15:13 p.m. CDT, 1:07:13 GET
5/26/73

good with our EREP.

CC Hey, sounds great.

CC Skylab, Houston. May we assume that all activities other than separator plate servicing has been accomplished, all activities prior to lunch?

SC Yeah, that's ah - that's affirmative.
We elected not to (garble). We looked at them and they're not that bad.

CC Roger; copy.

SC Be advised now that we have a moment to chat. Mobility around here is super. It's turned out to work better than I say, than we even hoped for. Nobody has had any problem with any feeling of any motion sickness or anything, so we're all squared away on that. Everything that we've been supposed to unfold or move or (garble) has been easier than we could hope for.

CC Roger. That's good news. How's (garble)?

SC (Garble) the parasol deploys.

SC Pete, told them about the one operation that wasn't any easier.

SC (Garble).

END OF TAPE

SL-II MC-97/1

Time: 3:23 p.m. CDT, 1:07:23 GET

5/26/73

SC Pete, tell them about the one operation; it wasn't any easier.

SC Yes, the doctor wanted me to remind you, though, that the one operation that has not changed in the history of manned space flight was just performed by a CDR, and, as usual, its backup (garble) it takes approximately 1 (garble).

CC (Laughter) Roger; copy.

SC (garble) and we just passed Florida, as I'm sure you know. And that we were able to make out - the (garble) Cape and from there we could all (garble) could not actually see the buildings. Do you see the cleared area around the VAB? Do you see the (garble) way out to the pads, both pads, and also make out quite distinctly the (garble).

CC Wow, must be pretty down there today.

SC It looks like they get some super big boomers in Miami, and that's just right to the Cape, too.

CC Roger. In fact, one of them must have got us, because we are having a little trouble with our command lines. That teleprinter message on the procedure change may be a little late getting up to you. However, there are no changes, at least up to step 5.

SC Okay, good enough. Gosh, something's coming in now.

CC Okay, the step 5 was in the parasol deployment.

SC That looks like black magic - that stuff coming out of that teleprinter.

CC Skylab, Houston. For info, we'll be dumping the data recorded over Bermuda, which is just a couple of minutes from now.

SC Okay, and as I remember, the cue cards for the (garble) deployment are in the back of the rendezvous book. Is that right?

CC Stand by.

CC That's a correct location. Back of the rendezvous book.

SC Okay, thank you.

SC Hey, Hank, you with us?

CC Roger.

SC Okay, I rewound the video tape recorder. It took about 3 minutes and 20 seconds for it to rewind. That's all configured for you.

CC Roger, thank you.

CC Skylab, Houston. Teleprinter load should be up to you now, and you look those over. If you got any comments, you can give them back to us. We got about 1 minute left on this pass.

SL-II MC-97/2

Time: 3:23 p.m. CDT, 1:07:23 GET
5/26/73

SC Okay, Houston, I've got them in hand, and the teleprinter does a very nice job, except it's awfully faint.

SC We don't know whether it's this particular paper or whether that's the way it's going to be the rest of the time. (garble) difficult to read.

CC You can read it all, can't you, Pete?

SC I think so, Hank.

SC Okay, we're just short of LOS. And our next contact is going to be Carnarvon at 13, which is a long time from now, and we'll be dumping the recorder there again.

SC Okay, hopefully we'll have had lunch by then, and we'll work these changes while we're doing lunch.

CC Okay.

PAO This is Skylab Control. We've had loss of signal apparently. The station is in the eastern test range. Next station Carnarvon in 39 minutes. During the just completed stateside pass, the commander reported that he could see runways on airfields across the northern United States. And commented that, hopefully, we'll do pretty well with EREP, referring to the earth resources experiment package, which does multispectral scanning and photography of Earth features. He also commented that the mobility in zero-g, going back and forth along the multiple docking adapter and airlock to the CSM and performing their activation chores, he commented that the mobility is super. Coming across Florida they reported seeing features at Kennedy Space Center, the cleared area around the vehicle assembly building. Conrad also brought up the fact that the Skylab windows were as clean as any he'd ever seen in any spacecraft. And looking up toward the telescope mount truss, he mentioned that the - that Don Lend's experiment was in super shape. This refers to Astronaut Don Lend, who is also a co-investigator on experiment number S230, magnetospheric particle composition experiment. His co-investigator is Dr. Johannes Guiss of the University of Berne in Switzerland. The detector is mounted on the ATM strut, with a cuff over it. And the detectors will be brought in during the EVA in which the ATM film canisters are retrieved. Crew presently is having a lunch meal, and they should be well into preparations for deploying the parasol during the next stateside pass, which is still another hour and 15 minutes away, when we come across Goldstone. Next station to acquire will be Carnarvon in 36 minutes, followed by Guam, with a slight gap between the two stations. At 20:36 Greenwich mean time, 3:36 central time, this is Skylab Control.

END OF TAPE

SL-II MC98/1

Time: 16:12 p.m. CDT, 1:08:12 GET
5/26/73

PAO This is Skylab Control; 21 hours 12 minutes Greenwich mean time. We have acquisition at Carnarvon. This Carnarvon pass lasts almost 10 minutes. Flight Director Neil Hutchinon has been going over the procedures for deploying the parasol device to understand in his mind, how the thing works, how the rods are attached one at a time and pushed out with retainer knobs attached.

CC Carnarvon for 7 minutes and we'll be dumping the recorder.

SC Roger. Okay. The CDR's headed into the workshop right now with duals ahead trying to (garble).

CC Roger; copy. And the next guy through the airlock there we'd like to get him to turn OWS heat exchange fans number one off. We don't need that anymore and we'll conserve a little power.

CC Skylab, Houston. Did you have any questions on the mods we sent up by teleprinter?

SC I just finished incorporating them in the cue card, Hank. We haven't really had the time to go over and review them. We'll do that later.

CC Okay. And ah - For the SPT there, he's to set up the TV. We'd like to give you some words on order of priority. The number 1 priority is, that he be able to observe the deployment. If the TV camera's going to interfere with his observation, then eyeballs come first.

SC Roger. This morning is the first time I had an inkling you guys wanted to see this and I just haven't thought about it, yet.

CC Okay. It's called out there on our page A-4 in the time line.

SC Yeah, which I saw this morning for the first time.

SC Say, Hank. There's one whale of a lot of stuff in that command module. And we'll see if we can get it out.

CC Okay.

SC Because in order to neaten it up to leave room for three guys, among other things, we had to dismantle the TV and restow it. In order to get it out, we are going to have to move a whole lot of other stuff.

SC We'll try to do it, but we're not promising anything, is what I'm saying, I guess.

CC Okay. That's good, but before you try it, take a look out the window and see if you think you're still going to be able to see if the TV camera is installed.

SC Ahhh yeah, well, oh I see your side yeah.

CC Well, the number 1 priority is being able to see it with your eyeballs, and if the camera interferes we don't want the camera.

SL-II MC98/2

Time: 16:12 p.m. CDT, 1:08:12 GET

5/26/73

SC You cannot see out that window with the TV camera in there.

SC I tried that yesterday and I couldn't see and I didn't get any TV by trying to do both.

CC Okay; copy.

CC I guess, if it's feasible, what we'd like to do is have you eyeball the deployment and after it's deployed give us a TV picture of it.

SC Understand you.

CC Skylab, Houston. We're about 30 seconds from LOS. We'll be coming up on Guam at 27.

SC Roger, Houston.

PAO This is Skylab Control; 21:22 Greenwich mean time, in a gap now between Carnarvon Tracking Station and the Guam Island Tracking Station in the western Pacific. Some discussion over Carnarvon on deployment of the parasol through the solar scientific airlock. It was mentioned that TV would be desirable through the command module window as the parasol is extended up above the workshop wall. However, the eyeball observation was prime. TV would be nice, but not to let it interfere with Kerwin's visual observation of the parasol. However, it was mentioned that after it was successfully deployed, it would be highly desirable to have a television picture. The parasol that is being carried was the brain-child of Jack Kinzler, who is Chief of the Technical Services Division at Johnson Space Center. The hardware for the parasol, all of the telescoping tubing up, and all of the deployment mechanism adapted to the TO-27 canister were all built in the Tex Services Machine Shop. The parasol canopy was also constructed here at Johnson Space Center. During all of the testing and modification period, the test teams worked around the clock. Most of the testing was headed up by Don Arabian. The poles work, rather like collapsible tent poles, in that they're aluminum poles or tubing of descending diameters to telescope inside each other with snap tabs at the end that prevent them from pulling out. Springs around the top hub will force the four diagonal poles outward after they clear the end of the canister and the wall of the workshop and bring the canopy out flat after some amount of flapping around until it damps out. Parasol canopy was packed late Thursday in the HIGH-BAY AREA of the Space Environment Test Division, building 32. And was packed with all the care of a parachute. In fact, parachute riggers did most of the actual packing and folding down to a package small enough to fit into the 8 by 8 inch square canister, which is some 53 inches long inside. Teflon sleeves, then sheets of Teflon on the 4 sides of the canister - -

END OF TAPE

SL-II MC99/1

Time: 4:25 p.m. CDT, 1:08:25 GET
5/26/73

PAO - which is some 53 inches long inside. Teflon sleeves, thin sheets of Teflon on the four sides of the canister, will aid in allowing the canopy to slide outward. The Teflon will act as a lubricant. We're less than a minute away now from Guam station. We'll leave the circuit up for the Guam pass. And we're 25 minutes out of Goldstone. This is Skylab Control standing by.

CC Skylab, Houston through Guam for 8 minutes.

SC Roger, Houston. This is the SPT. (garble) The other two guys are in the workshop getting ready for parasol deployment.

CC Roger; copy. And, for your information, we'll be switching the mission timer from B to A according to the Flight Plan.

CC Skylab for the SPT.

SC Go ahead.

CC Okay. Are you up in the STS or ATM panel now?

SC I'm moving now, but I can get there (GARBLE.)

CC You're picking up a lot of feedback through the SIAs, Joe. I'm having trouble reading you - loud squeal.

SC I know. I had my hands full of (garble). I had to use the wrong VOX. Go ahead.

CC Oh, okay. Sometime when you get a break there, we'd like for you to take a look at the Calfax fasteners on the teleprinter print cartridge and see if they are tied. I don't know whether that's - I can't imagine them not being tied, but it's one thing we couldn't check.

SC Standby. They're all tied, Hank.

CC Okay, thank you.

CC Skylab, Houston. For info, we're initializing a shutdown.

SC Roger.

CC Skylab, Houston. The DAS is yours.

CC Skylab, Houston. For information, we're commanding a (garble).

SC Roger.

CC Skylab, Houston. We're about 15 seconds from LOS. Goldstone at 51.

PAO This is Skylab Control, 21:35 Greenwich mean time. And we have gone out of range over the hill from the Guam Island tracking station; 15 minutes now until Goldstone in California. Crew at this time making preparations for attaching the canister containing the Skylab parasol to

SL-II MC99/2

Time: 4:25 p.m. CDT, 1:08:25 CET

5/26/73

the solar airlock (scientific airlock), a rather tedious job of extending the parasol, attaching one section of rod at a time to the central core rod, the main shaft of the parasol. This main shaft is actually part of the hardware for the T027 experiment, and the parasol four diagonal ribs and central hub were simply attached to the existing experiment hardware. The outer ends of the telescoping ribs are attached by screws to the inner plate, end plate, of the canister, and as the canopy is fully extended by successive attachments of rods, much like going down in a hole with drill stem in an oil well, the four screws will be released at the end plate, allowing the ends of the rods to pass on out through the canister past the wall of the workshop and rotate 90 degrees into the four corners, taking the folded parasol canopy with it. At 21:37, up again at Goldstone in 13 minutes, this is Skylab Control.

END OF TAPE

SKYLAB II

Vol. II

SL-II MC-1004/1

Time: 03:27 CDT 22:08:27 GHT
6/15/73

PAO Good morning, this is Skylab Control, 8 hours 28 minutes Greenwich mean time. We're less than a minute away from acquisition at the Honeysuckle station. Getting the crew up early this morning is part of the change in their circadium rhythm looking toward splash day, a week from today. We'll stand by for the callup.

CC Skylab, Houston, through Honeysuckle.
Good morning.

PLT Morning, Hank.

CC We've got you for about 9 more minutes this morning, then we're going to be dumping your recorder here first thing.

CC Skylab, Houston. For info, the friendly PI on the BMD has got a little request for you. He wants to get some repeatability data. And he would like for you to when you finish your first run, run on the BMD to get out of it and then climb right back in and do another run and voice record this additional data. He's trying to see if the results are repeatable.

CDR Hey, Hank, we'll have to catch it tomorrow morning. We've already weighed and we're all off to another things.

CC That's just fine. And while I got you, Pete, I've got a couple of questions on the EB gun if you can answer.

CDR Go ahead.

CC Okay, we'd like to know if the shut down was nominal or did you have to pull the main Bat circuit breaker after your last shot on the 553?

CDR I had to pull the breaker.

CC Okay, I guess then in that case, what we would like for you to do is, at your convenience, continue 553 until you can get a nominal shut down if possible. And when you do, we want to terminate M553. And the first time you get a nominal shutdown we want to terminate it. And then we want to put - well M552 is a data chopping list item if you want do that sometime. In regard to the sample wheel though, we would like for you not to cut any of those samples off of the wheel. We're trying to look into the stowage situation. There's a possibility that we may want bring that wheel back, and look at those samples, you know look at why they didn't come off there.

CDR Well, I can tell you, they will fall off based on my experience with the other wheel. The thing is retracted but they are still flat on the bottom, and they just sort of had to have a little stitched into the ceramic. I get nominal shut downs, it just happened that

SL-II MC-1004/2
Time: 03:27 CDT 22:08:27 GMT
6/15/73

the last one wasn't a nominal one. One other factor is that the whole thing turns blue in there when things are going bad. If that has any significance, it lights up blue.

CC I've seen that in the test runs and my estimation of what's happening there is you're getting enough out gassing there that you're sort of getting some sort of a discharge inside the chamber.

CDR Yeah, I agree with that. And I have not started any runs over 41, but some (garble) there. And I've seen it get as high as .5 during a run.

CC Roger that. That compares with what - the testing that I did out at the Cape. I'm more surprised that your vacuum doesn't do a better job.

CDR Well, that's what's got me mystified. Put you take a 4 inch hole out there and do it, but it sure as heck does it.

CDR Say, Hank, they don't have to look too far for stovage. We're short 2 EREP tapes, and I could go 89 pretty easily.

CC Roger, copy.

CDR I've had it sitting on vent all night. Now how do I get a (garble) or two good problems. Do you want me to shut that (garble) nominal. I ought to get one out of that this morning.

CC Okay, that would be good for that. When you do get a nominal shutdown, that's when we want you to quit.

CDR Okay.

CC And Skylab, Houston. All your pads are up there now. And we're going to need a paper change here. We're down to the last few feet.

PLT Okay.

CC Skylab, Houston. We'd like to verify this wardroom window got fogged up. The fogging is between the panes, isn't it?

PLT It's on the inside of the outer pane.

CC Roger. The next time one of you is in the wardroom, if you're not there we'd like for you to open the vent valve, panel 704.

PLT (garble)

CC Skylab, Houston, we're about 1 minute to LOS. Hawaii will be coming up at 49. And I've only got one more item for you, all we're going to get up there is a few flight plan changes.

SPT (garble).

END OF TAPE

SL-11 MC-1005/1

Time: 03:38 CDT 22:08:38 GMT
6/15/73

PAO This is Skylab Control, 8 hours 39 minutes, Greenwich mean time. We've had loss of signal at Honeysuckle and we're 10 minutes away from acquisition at the Hawaii tracking station. Skylab on revolution number 457. During this pass a discussion concerning the M553 experiment, the sphere forming experiment in which the crew has had a problem getting the electron beam gun to shut down properly. They've had to pull the circuit breaker to shut down the electron beam gun. Pete Conrad was instructed to try another run on this experiment and if he gets a nominal shutdown, that will be the end of that experiment for this Skylab 2 mission. The flight plan does not program that experiment today, however, they've asked him to do that, and following the completion of M553, they've asked him if he gets some time to go to M552, the exothermic heating task. The purpose of this experiment is to develop a stainless steel tube joining technique and to study and evaluate the flow and capillary action of molten brazing material. That's M552. The crew is also advised to reload the paper on the teleprinter. The current supply is about to run out. Today's flight plan - the Skylab Commander Pete Conrad, and the Pilot Paul Weitz will be bringing up some of the Command and Service Module systems. Primarily the guidance and control system for a minus 7 day checkout, prior to reentry. State vector on the CSM will be updated, platform will be aligned, some of the other systems will be checked out. The Commander will devote about 4 hours to this task this morning. The Pilot about an hour. Conrad will also be the subject for M092 and the M171 experiments today. That's the lower body negative pressure and the metabolic activity experiment using the bicycle ergometer. Science Pilot Joe Kerwin will be the observer in that experiment. There's 4 hours and 44 minutes of Apollo telescope mount work scheduled for today, split between Kerwin and Weitz, as the operators. Joe Kerwin is scheduled to be the subject for an M131 run today. The human vestibular function. Paul Weitz will be the observer. Unattended experiments that are scheduled for today, many of which are continuing from the start of this mission are S228, the transuranic cosmic rays, S09 nuclear emulsion, ED76 neutron analysis, D024 thermal control coatings, S073 the the gegenschein/zodiacal light experiment will also be performed. Paul Weitz will set up that activity, and then it will run unattended after setup. The crew is on a new schedule today to start changing their schedule looking toward an early splashdown next Friday. Bedtime today is 6:00 p. m. eastern daylight - central daylight, I'm sorry. At 8 hours 44 minutes Greenwich mean time. This is Skylab control.

END OF TAPE

SL-II MC-1006/1

Time: 03:47 CDT 22:08:47 GMT
6/15/73

PAO This is Skylab Control, 8 hours 48 minutes Greenwich mean time. We're standing by for acquisition at Hawaii.

CC Skylab, Houston through Hawaii for 9 minutes.

PLT Hello, Houston.

CC Skylab, Houston. I got those flight plans handy. Just give me a buzz whenever you're ready.

CDR Roger. Houston. In answer to message 2229 Alpha, the answer to the question is 62.384 percent.

CC That's pretty accurate.

CDR Well, that was arrived at by accepted engineering standards.

SPT Hello, Houston, you there.

CC Roger, we got some blockings on the Command Module, we back with you now.

SPT Okay, go ahead with the flight plan changes, Henry.

CC Okay. For the CDR at 1450 on the flight plan. We'd like to change the S070 - you guys did such a good job yesterday on S073 we going to redo it here. Change the 2 Alpha to a 1 Delta. And for the PLT at 1910, you've already got an S073, 2 charter scheduled and you pads on board. But we would like to add a 2100 for the PLT on S073, 4 Alpha instead of 5 Alpha. Delete the 5 Alpha and make it a 4 Alpha. And then you'd have to make the appropriate changes in his detail pads. The CDR details at 1450, The S073, 1 Delta and the pads on board. And the PLT at 2100 details to 4 Alpha and the pads on board.

SPT Roger.

CC And Sir, you can be thinking about it. There is some consideration here by management of adding another EREP pass on day 169. We're a long ways from a decision yet, but just wanted to let you know in case you were starting to close out some of the EREP.

SPT Roger.

CC Skylab, Houston. About 30 seconds from LOS. Goldstone will be coming up at 01.

PAO This is Skylab Control, 8 hours 59 minutes Greenwich mean time. We've had loss of signal at Hawaii. Goldstone will pick up in about 2 minutes. Spacecraft communicator at this time is astronaut Henry Hartsfield. Flight Director is Neil Hutchinson. Over Hawaii the crew was advised of a possible Earth Resources pass on day 169, that's day of the year 169, today is day 166. They were advised that no decision has been made and they will be advised prior to day 169.

END OF TAPE

SL-II MC-1007/1

Time: 04:00 CDT 22:09:00 GMT

6/15/73

PAO - - And they will be advised prior to day 169. We'll continue to stand by for acquisition at Goldstone. One other unattended experiment that is still being conducted is ED31, the bacteria and spores experiment.

PAO This is Skylab Control 9 hours 8 minutes Greenwich mean time. We've had loss of signal at Goldstone. We will have about a 3-1/2 minute break before the Bermuda station picks up. Skylab now at the northern most point on its ground track, 50 degrees north latitude, up north of the Great Lakes. We'll continue to stand by and keep the line up for acquisition at Bermuda.

END OF TAPE

SL-II MC-1008/1
Time: 04:10 CDT 22:09:10 GMT
6/15/73

CC Skylab Houston, through Bermuda 7-1/2
minutes.

CC Skylab Houston. We're 1 minute from
LOS. We'll be coming up on Canaries at 21.

END OF TAPE

SL-11 MC-1009/1

Time: 04:19 CDT 22:09:19 GMT
6/15/73

CC Skylab, Houston. Through Canarias and
Ascension for 15-1/2 minutes.

SPT

Fifteen and a half, wow.

CC

That's a biggie, and for information
since we're not doing maneuvers today, we're gonna leave
your GYROs in the configuration we put them in last night,
and your panel will be okay, except that the Y configuration
is 1/2.

CDR

Roger.

CC

update.

And Skylab, Houston. I have your SAP

SC

(garble)

CC

Roger, I have the solar activity update.

CDR

Go ahead.

CC

Okay. Active region 27 is still popping.
We got a couple of subnormal flares out of that last night.
2219 and 0136. We got a subnormal target too in X-rays at
0031 in active region 37. Active region 4.1 fired a sub-
normal flare about 04:25 this morning and we've got a new
active region 43 that's popped up at 180.3 and there's a
little flare out of that, but we already expect much activity
in that area.

SPT

flares, please.

Okay, we copy. We'd like some supernormal

CC

So would we.

CDR

Houston. He's about to let the CDR trim his hair.

CC

Careful.

SPT

Say, Hank, I assume that before 2100
you guys are gonna send me a S073 pad for that 4 Alpha
program. Is that right?

CC

It should be up there now. We indicate
that all pads are up now. It would have been the last one
up.

SPT

Was that after 0810 that was sent up.

CC

That's affirmative. It went up there
at 08:22 or roughly, or 08:25.

SPT

Oh, okay.

CC

Make that about 08:30. It was over
Horeysuckle, I think. We sent it up.

END OF TAPE



SL-11 MC-1010/1
Time: 04:27 CDT 22:09:27 GMT
6/15/73

SPT	Go ahead, Houston.
CC	Roger, we've got about 5 more minutes.
CDR	We were just passing over Epishawn. I've
got some friends down there, made that in 1969 after 12.	
CC	Skylab - -

END OF TAPE

SL-II MC-1011/1

Time: 04:36 CDT 22:09:36 GMT
6/15/73

CC Skylab Houston, 1 minute to LOS. We'll
be coming up on Canarvon at 05.

CDR Roger.

PAO This is Skylab Control, 9 hours 38 minutes Greenwich mean time. We've had loss of signal at Ascension. Skylab now on revolution number 458. The next station to acquire will be Honeysuckle in about 25-1/2 minutes. Conversation between the spacecraft and the ground has been rather sparse during this series of passes over the United States, Canaries, and Ascension. The crew was having breakfast and involved in other post sleep activities. Skylab Commander Pete Conrad, indicated he was about to give a hair cut to Pilot Pete Weitz. To the best of our knowlege, this would be the first haircut in space. We're positive it would be the first haircut in space at approximately 4:30 a.m. central daylight time. We'll come back up just prior to acquisition at Honeysuckle. At 9 hours 39 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1012/1

Time: 04:59 CDT 22-09:59 GMT
6/15/73

PAO This is Skylab Control at 9 hours 59 minutes Greenwich mean time. Here in the Control Center Flight Director Chuck Lewis and his bronze team are taking over from Flight Director Neil Hutchinson. The spacecraft communicator will be astronaut Dick Truly. Neil Hutchinson will have a change of shift news briefing in the Johnson Space Center briefing room, Building 1, at 5:15 a.m. central daylight time. Fifteen minutes from this time. Change of shift briefing 5:15 a. m. central daylight time. We're 4-1/2 minutes away from acquisition at Honeysuckle. We'll come back up just prior to acquisition. Skylab Control at 10 hours Greenwich mean time.

END OF TAPE

SL-II MC-1013/1

Time: 05:02 CET 22:10:02 GMT
6/15/73

PAO This is Skylab Control 10 hours 3 minutes
Greenwich mean time. We're about to acquire Skylab at the
Honeysuckle, Australia station. We'll stand by for that
now.

CC Skylab Houston, we're AOS at Canarvon
for the next 9 minutes.

CDR Roger Houston. CMC dump check coming up.

CC Okay.

CDR Hey Houston, are you ready for the
E-memory memory dump?

CC Stand by Pete.

PLT Well hi there Richard. You just thought
you were going to have the daylight shift, huh

CC They keep fooling me Paul.

PLT I know what you mean.

CC And CDR Houston. Affirmative, we're
standing by for E-memory dump now.

CDR Coming at you.

CC Roger.

END OF TAPE

SL-II MC-1014/1
Time: 05:10 CDT 22:10:10 GMT
6/15/73

CDR And Houston, I'm ready for your P27
anytime you're ready to ship it.
CC Roger, CDR. We'll uplink that to you
at Hawaii.

CDR You say that Hawaii.
CC Rog, and you're in the middle of the
Honeysuckle pass now. The Hawaii pass is going to start
at 10:27.

CDR All right. I have the time. How about
the logic sequencer check? In Hawaii also?

CC Let's see Pete. Let me check that one.

CDR Some strange vehicle I'm in. I haven't
been in here long enough from (garble) to remember what it's
all about.

CC Well, the 4 foot trench is watching you
today. And the logic sequence check is scheduled for a
Bermuda pass, and that's coming up at 10:48.

CDR Okay. P27 at Hawaii and logic sequence
check at BDA. We'll be standing by.

CC Okay.

CDR (garble) Is this real world times for
the entry day also. Or, pretty close to the stations.

CC Let me think about that one and get
back to you Pete, I'm not sure.

CDR Or, do we see that tomorrow, tomorrow I
guess.

CC CDR, Houston. Negative. The times
today are not too close to the entry. The actual entry
day times - we have another message that's in preparation
that will describe the pass times for both the entry SIM
tomorrow and also the entry on entry day, and they'll be
coming up to you when we get them ready.

CDR Okay. Sometime before reentry, please.

CDR We want the VHF check. You want that
at Bermuda also, or another one down the road.

CC That's in Bermuda also, Pete. And we're
25 seconds from LOS here at Honeysuckle. We're gonna see
you at Hawaii at 10:27 and we also are gonna dump the data
tape recorder at Hawaii.

CDR (garble) Hawaii.

CC Roger.

PAO This is Skylab Control. Ten hours 15
minutes, Greenwich mean time. We've had loss of signal
at Honeysuckle. Hawaii we'll acquire in about 12 minutes.
Pete Conrad has started the entry minus 7 day checks in the
Command Module. Flight Director Phil Shaffer will handle
the 4 hour checkout of the Command Module while Flight
Director Chuck Lewis stays with the Skylab workshop. The

SL-II MC-1014/2
Time: 05:10 CDT 22:10:10 GMT
6/15/73

backup Skylab Commander Rusty Schweickart has joined Capcom Dick Truly. Flight Director Neal Hutchinson is on his way to the News Center for the change of shift briefing. That briefing will begin momentarily. We'll take this line down now. At 10 hours 16 minutes. This is Skylab Control.

END OF TAPE

SL-II MC-1015/1

Time: 05:35 CDT, 22:10:35 GMT
6/15/73

PAO This is Skylab Control. 10 hours 36 minutes Greenwich mean time. We're about 2-1/2 minutes away from acquisition at Goldstone. There was some conversation over the Hawaii station, mainly concerned with the entry minus 7-Day checks. We have taped that conversation, we'll play that back at the first opportunity, which will probably be after LOS at Ascension. We'll continue to stand by for acquisition at Goldstone and carry the states' de pass live. Skylab will, - ground track will enter the continental United States north of Seattle, go north of the Great Lakes, and exit around Boston or south of Boston. Fairly high latitude pass across the United States. We'll stand by for acquisition.

END OF TAPE

SL-11 MC-1016/1
Time: 05:38 CDT, 22:10:38 GMT
6/15/73

CC Skylab, Houston. We're AOS at Goldstone for 5 minutes. And we'll get right back to you when we go data so we can watch logic sequence check. As a matter of fact, I'm told that we're ready to - for it any time.

SC It's coming at you, and I'll give you a holler when I'm at your point.

CC Okay.

SC Okay, I'm ready to give you the seq logic.

CC Okay. Go ahead.

SC Logic plus 2 is AUTO

CC CDR, Houston. The logic sequence check is good. You're GO for POWER ALARM. Be advised we're going to do the VHF check. We've got the STATE IN configured at the Mila pass, which is coming up in just a few minutes, and when we get there, we'll go over there and do VHF check.

CDR Okay. I'll go ahead and dearm the logic.

CC Roger.

CDR Step 8 is complete, and LOGIC SEQUENCE CHECK and all breakers are back open again. And I'm standing by for your VHF.

CC Roger that.

CC Skylab, Houston. We're about 20 seconds from LOS at Goldstone. We're going to have Bermuda on S-band AOS prior to Mila; so I'll contact you in this comm configuration on S-band at Bermuda. Then when we get Mila acquisition, we'll go over and do the VHF.

SC Roger.

CC Skylab, Houston. We're AOS at Bermuda and Mila for 10 minutes. We do not have Mila acquisition yet, and I'll let you know when we're ready for VHF.

SPT Houston, SPT. Are we still in the horn of the anomaly? We've - -

CC Stand by 1.

SPT Roger. What's happening is that we have a very high PMEC comm. And the times given on the pad - well, it's dropping now. The times given on the pad indicated we were out of the horn, and we see nothing particularly outstanding on our ATM displays, and that's puts us in a heck of a dilemma.

CC Stand by just 1, Joe. I'll get back to you.

END OF TAPE

SL-II MC-1017/1

Time: 05:49 CDT, 22:10:49 GMT
6/15/73

CC SPT, Houston. We believe you are still in the Horn, and we're going to go back and check the times that we gave you for your exit - entry and exit times for the anomaly.

SPT Okay. Those times are important, Houston, because 99 percent of the high PMEC we feed you is (garble) the belt. And it's very hard to discriminate from that other 1 percent.

CC I understand.

CC CDR, Houston. We're configured for VHF, and you can go ahead and configure per page 1-8 and give us a call. I'm standing by.

CDR Okay.

CDR Skylab's back up, S-band.

CC Me too, Skylab; loud and clear. We've still got 7-1/2 minutes left in this pass.

CDR Roger. Let's strike step 11.

PAO This is Skylab Control at 11 hours Greenwich mean time. We're had LOS at Bermuda. Skylab will be acquired by the Ascension Station in about 5 minutes. We'll come back up just prior to acquisition at Ascension. At 11 hours Greenwich mean time, this is Skylab Control.

END OF TAPE



SL-II MC-1018/1
Time: 06:04 CDT, 22:11:04 GMT
6/15/73

PAO This is Skylab Control at 11 hours 4 minutes Greenwich mean time. Skylab has started its 459th revolution and the tracking station at Ascension is about to acquire. We'll stand by for this pass.

CC Skylab, Houston. We're AOS Ascension for 11 minutes.

SC Roger, Crip.

CDR Still there, Houston?

CC Affirmative, CDR. Go ahead.

CDR I'm looking at the DSKY here, the P52 day-light style light.

CC Roger.

SC All balls for the torquing angle.

SC That came from a, the 51 which is star tracker and sun sensor.

CC Roger. Thank you.

CC CDR, Houston. When you get a chance, we'd kind of interested to know how the FDAI air needles check went on 1-9?

CDR Super.

CC Okay.

CDR Getting into the G&C aline now.

CC Roger.

PLT Hello, Houston, Skylab. Got a few words for the ATM people, if they're listening.

CC Roger. They're listening.

PLT Okay. Observing just right after the daylight pass, this filament on the north side of active region 37 has undergone considerable changes. On the west end of it, where it was (garble) from this morning, it was fairly flared out and kind of fan shaped, it narrowed down, became more distinct and it has moved into the east-west running filament channel, which ordinarily joined up with us this morning, to the north of us, and just in the last 30 minutes, as I say, it's changed shape, it appears that much, which is kind of surprising to me.

CC Roger, Paul. Thank you much. And they got the word.

CC Skylab, Houston. We're 1 minutes till LOS Carnarvon at 11:39.

PAO This is Skylab Control; at 11 hours 17 minutes Greenwich mean time. We've has loss of signal at Ascension. Pete Conrad still busy with the Entry Minus 7-Day - -

END OF TAPE

SL-II MC-1019/1
Time: 06:17 CDT, 22:11:17 GMT
6/15/73

PAO At Ascension. Pete Conrad still busy with the Entry Minus 7-Day checkout of systems on the command and service modules, with particular attentions to the guidance and control system. ATM operation at the moment being handled by Paul Weitz. Joe Kerwin scheduled to take over operation of the Apollo Telescope Mount shortly. We have approximately 6 minutes of tape acquired over the Hawaii tracking station during the change-of-shift news conference. We'll play that tape for you now.

CC Skylab, Houston. We're AOS at Hawaii for the next 9 minutes. We'd like ACCEPT, and we're ready to uplink P27.

SC You got it.

CC And also, Pete, any time during this pass, I've got a P30 Tig time and a couple of other times for you. And the first one's on page 1-9 of the Entry Checklist.

SC Go ahead.

CC Okay. On 1-9, there at step 12, you want to complete the P51 prior to 11:37, and the next one's on 1-11.

SC Go ahead.

CC Okay. On - Roger. On the pen and ink note, Pete, in step 18, that time is 13:10. 1, 3, 1, 0. And also on that page, down there below step 19, the - wait just a second. Yeah, the P30 Tig time is 12 plus 29 plus 00.

SC 1, 2, 2, 9, 0, 0. I got it.

CC Roger. CDR, Houston. On that entry on 1-11, there is a correction to that pen and ink. The time that I gave you of 13 plus 10, we want to complete the P50 before that time of 13 plus 10.

SC Okay.

CC CDR, Houston. One more suggestion we might make on your timeline today. The P52 option 3 on page 117 - If you'd go ahead and attempt it right after the P50 while you're still in daylight, that'll be closer to your - the alignment problem on entry day. If you don't get a good alignment in daylight or unable to, we'll just go ahead and wait and do it after sunset. And that'll be at - -

SC Okay. P52 option 2, item number 39, and do that right after the P50 which has to be done before 13:10. Right?

CC That's right. So we figure you'll be doing the P52 sometime around 13:00 or so. And that is, in that that's about - oh, 12, 13 minutes prior to sunset.

SC Okay. We'll pick a pair once, or are you going to have to give us a couple of stars for the daylight?

CC We do have - Well, pick a pair, I'm told, should work, although we do have some stars in our hip pocket

SL-II MC-1019/2

Time: 06:17 CDT, 22:11:17 GMT
6/15/73

that we're going to have available for you.

SC Okay.

CC Skylab, Houston. The uplink's complete; you can go back to block. Thank you much.

SC Okay. Ready for the logic sequences?

CC Negative, we're going to be ready for them at the Bermuda pass - at the (garble). Incidentally, we're about a - -

CC Skylab, Houston. We're about a minute and 20 seconds from LOS. We're going to see you at Goldstone at 10:40. And incidentally, on this stateside pass, you - if anybody has time to look out the window, it's going to be prior to sunrise across most of the States. You're going to cross the west coast just north of Seattle and then come skimming across the Canadian border. Then just above the Great Lakes and then finally leave the east coast just north of Boston. And all that is after a lesson in how to use the slider map from the backup CDR.

SC Yea for the backup CDR. We already looked at that, and we've only got 3 minutes till stateside sunrise. And I just looked out the window, and I think, unfortunately, we're not going to be able to see much on the ground, because it's getting pretty bright in the east already.

CC Roger.

SC Tomorrow we're going to get up early and look out the window, right?

CC Right.

SC But with this full moon it's awful bright outside anyhow. Yeah, and the super passed out in the bed last night, looking at it in the moonlight. And he could see the land and the ocean real good. Nothing happens; it still looks grand in the full moon.

CC Roger.

PAO This is Skylab Control at 11 hours 23 minutes. That's the end of the tape on the Hawaii pass, while the change-of-shift news conference was in progress. Skylab is still 15 and 1/2 minutes away from acquisition at the Carnarvon, Australian Station. We'll come back up just prior to acquisition there. At 11 hours 23 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1020/1
Time: 06:38 CDT, 22:11:38 GMT
6/15/73

PAO This is Skylab Control at 11 hours
38 minutes Greenwich mean time. Skylab is about to be
acquired at the Carnarvon, Australia Tracking Station. We'll
stand by for that pass.

CC Skylab, Houston. AOS at Carnarvon for
10 minutes.

CDR Thank you. Houston, let me give you
some numbers.

CC Roger. Go ahead.

CDR (garble) test run okay. The star tracker
FFP51 went all right. If you'd like the numbers for
204 and 146. Outer gimbal was plus 02039, the inner gimbal
was plus 00279. The (garble) was 00004. I have a suspicion
that I either copied the number wrong, or I was lead to be
wrong, I think the outer gimbal angle was more like 2029,
but I'll get to that later.

CC Roger, Pete. Copy.

SC (garble).

CC Come in squeak.

CDR While he's finding it, Bob, (garble)

P52 was done in daylight with the stars 41 and 44. You
got 5 balls and you copied the torquing angles. BMAG 2
drift check started at 11:32, EMS entry check went
all right. Go ahead, SPT.

SPT SPT would like permission to use the
VTR for TV 18.

CC Roger, you've got it, Joe. Go ahead.

SPT Okay.

CDR EMS Delta-V test is null bias check. It
was all right. I had plus 9/10ths of a foot per second for
1 minute and 40 seconds.

CC Copy.

CDR (Garble) was done in this daylight pass.
The star code was 04, the outer gimbal was plus 02029. The
inner gimbal was plus 00279. The noun 23 was 14657, 18015,
00020.

CC Roger. Copied them all.

CDR Okay. The P-30 external Delta-V was
loaded. HA-HP were plus 889.4, plus 235.1. We are now at
step 25, all complete down to (garble) and holding.

CC Roger. Understand.

CDR Okay. I guess we hold there until 12:29
or shortly before, right?

CC Let me check.

CDR We'll be on the line at about 12:19, I
guess. About the 240 stuff.

CC That's affirm CDR, we concur on times and
we're standing by.

SL-II MC-1020/2

Time: 06:38 CDT, 22:11:38 GMT
6/15/73

CDR Okay. So am I. See you then. Bye.

CC Bye.

CC

Skylab, Houston. There are a couple of things; one for the SPT. On the VTR, for your information, it is okay and I guess you all ready are possibly using the VTR. But there's - Be advised there's 22 minutes of tape available for your use there. And you're welcome to use it to the end, but there was about 8 minutes of tape that we hadn't dumped yet at the start of that tape. The second thing was, we still need somebody, when you can, to change teleprinter paper for us.

CDR Okay. I'll go do that right now. The other thing is, will we have a full 30 minutes of tape tonight. We were going to try and get to one of those CB tours.

CC That's affirm. We plan to have it all dumped by then.

CDR You mean for the (garble) schedule on these entry checks, Captain Video can get to the VTR also. (Garble).

CC Skylab, Houston. We've got about a minute to LOS, Guam at 11:52.

SC Rog.

MCC (garble)

PAO This is Skylab Control at 11 hours 49 minutes Greenwich mean time. We've had loss of signal at Carnarvon. And we're about 2-1/2 minutes away from acquisition of signal at Guam. Joe Kerwin is using the video tape recorder in connection with ED31, the bacteria and spores experiment, to determine under control conditions the survival, growth and mutations of selected bacteria in the Skylab environment. This is one of the student experiments. The principal investigator is Robert Staehle of the Harley School, in Rochester, New York. We're about a minute and a half away from Guam. We'll stay up for the pass there.

END OF TAPE

SL-II MC1021/1

Time: 06:50 CDT, 22:11:50 GMT
6/15/73

CC Skylab, Houston. We're AOS Guam for 8
minutes.
SC Roger, Houston.
CC And, Pete, if you're not in the command
module, next time you whiz up that direction, one thing that
the COMM would like to check is to verify that FUEL CELL
1 PUMP's OFF on panel 5.
SC FUEL CELL 1 PUMP's OFF on panel 5. Roger.
I'll check that. (Garble)
CC Okay. No hurry.
SC (Garble), Houston (garble) yourself a tele-
printer message for test anytime you want.
CC Roger; understand. The paper is all
changed. Thank you much.
SC FUEL CELL 1 PUMP switch is OFF and was
OFF.
CC Roger, Pete. Thank you very much. The
reason we asked is we did see a very small DELTA temperature
for the two fuel cells, and we just wanted to confirm that.
Thank you much.
SC What temperature are you looking at?
CC Stand by 1.
SC My (garble) temps are almost identical, if
not identical.
CC CDR, the temps were red in red out temper-
atures and the difference in FUEL CELL 1 and 2, but it made us
think that possibly that switch was on. But they were not
fuel cell temperatures as I told you before.
CC Skylab, Houston. Couple of notes for the
SPT. One is when you're - Joe, when you're finished with the
VTR, if you could - if you could go ahead and rewind it so
we could get ahead right at the AOS at Goldstone and getting
it dumped, we'd appreciate it. Also on your ATM pass that's
going to be beginning at 12:17, several days ago we noticed
once that 82 Bravo was allowed to be shut down by the door
closing, and we don't want to do that because there is a chance
that we might hang up the camera, that you'd have to fix EVA.
It should be shut down per the JOP 7 stop time of 20 seconds;
it's on your pad for this upcoming pass. And we are going to
put this on a little general message so all the guys will get
to read the rash now.
SC The TV's yours.
CC Roger. Thank you. We're about 30 sec-
onds from LOS. We're going to see you at Goldstone at 12:18.
PAO This is Skylab Control; 12 hours 3 minutes
Greenwich mean time. Skylab is out of range at Guam now and
does not go within the Hawaii Station acquisition range on
this revolution; so the next station to acquire will be Goldstone

SL-II MC1021/2

Time: 06:50 CDT, 22:11:50 CMT
6/15/73

in 15 minutes. We'll come back shortly before acquisition there. At 12 hours 3 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1022/1
Time: 07:16 CDT, 22:12:16 GMT
6/15/73

PAO This is Skylab Control; 12 hours 16 minutes
Greenwich mean time. Skylab coming up now on acquisition at
Goldstone. In the 459th revolution. We'll stand by for this
pass over the United States.

CC Skylab, Houston. AOS stateside for 16
minutes.

CDR Roger, Houston. We just went to P40.

CC Roger.

SPT Houston, SPT.

CC Go.

SPT I didn't quite understand what you said
about 82B in the last conversation. It's not, they don't
mind having the, having darkness cut, close the door, do they,
because that's our routine way of operating?

CC Stand by.

CC SPT. Houston. Let me see if I can clarify
this for you. What we'd like to avoid is to have one of the
82 Bravo modes be terminated by door closure. So in this case
what we want to do is to stop taking photography and close the
door about 20 seconds prior to sunset. I'm sorry, stop the mode
20 seconds prior to sunset.

SPT We don't have to close the door manually,
then, right?

CC That's affirmative, Joe.

SPT Okay, cause it clearly stated in the mission
rules, that the crew was infallible and I wanted to verify
that.

CC Roger. We're checking ourselves.

SC (laughter) Hey, Houston, also for infor-
mation, our onboard radar on (garble) 4M, that's (garble).

CC Roger. Copy.

CC PLT, Houston. For your information, our
TM also shows about the - and concurs with yours on reg 4. How-
ever, we think it's a transducer problem.

PLT Yeah, I buy that.

CDR Hey, Houston. I'm not using these gimbal
angles you've got in here, I'm using the ones that you had me
put in before, okay?

CC Roger. That's okay with us.

END OF TAPE

SL-II MC1023/1

Time: 07:25 CDT, 22:12:25 GMT
6/15/73

SC It does all kinds of good things for the
rates, Houston.
CC Sorry, Pete. Didn't copy that. Say again.
SC He says our gimbal - you can really feel it
in here and hear it slosh and finger how much it shows up on
the rate needle.
CC Roger. Hang on.
SC We did.
SC Hey, Houston, the EMS is garble. Verify
that the GHz power is in fact OFF.
CC Very good. Thank you.
SC Houston, CDR.
CC Go ahead, CDR.
SC I'm going to press right on to step 33.
You want to watch, right?
CC Stand by just a second, Pete.
CC Affirmative, Pete. Press on; we're watching.
SC Okay. I got all the right responses here.
I just read backwards.
CC Roger, CDR.
SC Okay, step 34 complete.
CC Roger; concur. We watched the DELTA.
CC CDR, Houston. We see you're about 10 minutes
from the end of the BMAG 2 drift check. A couple of other little
notes, now that you're through some of this busy part here for
this pass. We've got the entry SIM and checklist changes for
entry that'll be uplinked for you today. Also this evening we're
going to uplink a full set of maneuver pads for the entry
SIM tomorrow. In fact a slightly different subject with regards
to the TV tour today. It turns out we looked at the schedule,
and if we did TV 21 as scheduled in the Flight Plan today, that
would prevent you from doing the TV tour. However, if you're
amenable to getting the tour out of the way, we think that's
more important, and we'd like to do that today. So we'd suggest
scratching TV21 from your Flight Plan today. That'll give you
plenty of tape on the VTR, and you can do the tour at your con-
venience this evening.
SC Okay.
SC I have more than an hour on the feedbag,
and I'll give you a check in just a second.
CC Roger.
CC Skylab, Houston. We're 30 seconds from LOS.
We're going to see you at Carnarvon at 13:17.
SC Okay.
PAO This is Skylab Control at 12 hours 37 minutes
Greenwich mean time. We've had loss of signal at Bermuda. Skylab
passes outside the acquisition ring of Ascension on this revolu-
tion - revolution number 460. So we'll have a long LOS, the next
station to acquire being Carnarvon, Australia in about 38-1/2 min-
utes. Paul Weitz is now assisting Pete Conrad with the entry

SL-II MC1023/2

Time: 07:25 CDT, 22:12:25 GMT
6/15/73

minus 7-day checkout of command and service module systems.
Science Pilot Joe Kerwin still operating the Apollo telescope
mount. We'll come back up just prior to Carnarvon acquisition.
At 12 hours 38 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1024/1

Time: 08:15 CDT, 22:13:15 GMT
6/15/73

PAO This is Skylab Control at 13 hours 15 minutes Greenwich mean time. Skylab coming up on the Carnarvon, Australia, Tracking Station now. Acquisition there in about 30 seconds; we'll stand by.

CC Skylab, Houston. AOS Carnarvon for 9 minutes.

SC Copy.

CDR Roger, Houston. Would you like the P52? I couldn't get it to daylight. There's too much Earth in the way.

CC Okay; affirmative. I would.

CDR Okay. I got star 37 and star 40. Five balls, NOUN 93 plus 00076 minus 00174 and minus 00084; the time, 13:15:45:00. And I'm going to go ahead and power down the G&N.

CC Stand - Stand by on that, please, Pete. Just a second.

CC Skylab - CDR, Houston. We got to do some uplinks, and also get an E-MOD. If you'll give us ACCEPT as soon as the 50 is over, we can get started on that, and then we can power down the G&N after that.

CDR Got ACCEPT and POO.

CC Roger. Thank you.

CC And, CDR, do you have any information on us on the drift check?

CDR Oh, let me give you both of them.

CC Okay. Go ahead.

CDR BMAG 2 drift check, FDAI-1 NOUN 16 - I mean NOUN 20. 261.61007.84355.05; GDT ATT was 2590 0110 356.9. The total time, 1 hour and 4 minutes.

CC Roger; copy.

CDR BMAG number 1, NOUN 20 261620076235521. GDC ATT, 260.8, 007.8, 356.5; the time, 30 minutes.

CC Roger, Pete. I got both of those.

CDR Do you want your E-MOD at 13:37, or can you take it here?

CC Stand by.

CC Skylab, Houston. The load is in; you can go back to BLOCK. And we are standing by for the E-MOD. We got about 4 minutes left in this pass.

CDR It's coming at you right now.

CC Okay.

PLT Okay, Dick, when you get a minute or two, the PLT's got a couple of items for you.

CC Very good, FLT. Because I have an item for you, and I was trying to figure out where you were. Go ahead.

SL-II MC-1024/2

Time: 02:15 CDT, 22:13:15 GMT
6/15/73

PLT First item is - Is there any way we can tell if our wardroom heater is still functioning? If that's gone up, good, you could tell us we turn it off and on, because our water has frozen again, and where the window protector was formally warm to the touch when busily washing the windows, it no longer is.

CC Roger. We copy.

PLT Another item. And the second item is - just so I don't forget. How about - but it may be for EVA - this schedule may put the S190 desiccant in the oven, please. And then on either day 27 or 28, another reminder to put the new ones in the camera.

CC Roger. We'll sure put that on your Flight Plan, Paul, and if that's all you got, I got one item on the ATM I'd like to mention to you.

PLT Okay.

CC Okay, talking about S082A. I guess we've had occasions where the OPERATE light has remained on after MODE TERMINATION, and in this next daylight cycle, after you get through with the completion of the time mode in building block 3, there's an opportunity where this might happen. And if it does - if the OPERATE light does stay on there, we'd like you to do a real quick little test for us, and that is throw the 82A FLARE switch to INHIBIT, and then note the status of both the READY light and the OPERATE light. And just tell us what the status of those two lights are next time we have AOS and - -

END OF TAPE

SL-II MC1025/1

Time: 08:22 CDT, 22:13:22 GMT

6/15/73

CC - to denote the status of both the ready light and the operate light and just tell us what the status of the two lights are next time we have AOS and that'll help us find - try to psych out exactly what the problem is.

PLT Okay, we'll try it. Now Joe just came down -- he was running in the time mode. It's been operating almost continuously. Once you start it - When the door first opens it comes up READY. Once you start unload (garble) it usually stays OPERATE. Now Joe just finished that building block that he had and it came up READY at the end of each sequence this time. But I'll check it next time.

CC Okay, good. Thank you.

CC CDR, Houston. We've got the EMOD and we're GO to go ahead and power down.

CDR Okay, Roger.

CC We're about a minute from LOS. We'll see you at Guam at 13:31.

CDR 13:31, bye.

PAO This is Skylab Control. We've had loss of signal at Carnarvon. Guam will acquire in about 5-1/2 minutes. The water that's frozen that Paul Weitz was describing is the moisture on the inside of the outer pane of the wardrobe window. It does not appear to him that the window heater is working. We'll come back up just prior to Guam. At 13 hours 25 minutes this is Skylab Control.

END OF TAPE



SL-II MC-1026/1
Time: 08:29 CDT, 22:13:29 GMT
6/15/73

PAO This is Skylab Control at 13 hours 29 minutes Greenwich mean time. We're standing by for acquisition through Guam.

SC

Houston, CDR.

SC

Hello, Houston; CDR.

SC

Hello, Houston; CDR.

CC

CDR, Houston. Go ahead; we've got you for

5 minutes.

SC

Okay. I wasn't sure whether you wanted me to power down the computer or not. I powered down the IMU. Am I cleared to power down the computer? Do you have to go back to sleep?

CC

Stand by just 1 on that, please.

CC

CDR, Houston. Affirmative, you're cleared to power down the computer.

SC

Okay.

CC

And, incidentally, back to the subject of the wardroom window heater. We don't have any direct telemetry that tells us whether or not that heater's on. And the current draw is so low that we have a hard time seeing it. About the only thing we can suggest is to verify the two circuit breakers on panel 614. And if you haven't already tried it, you can try the heater on the opposite bus from the one you have tried and let it sit there for a while and see if it warms up. And one thing we'd like to know is what's the size of the ice spot that's on there now as compared to what it was the other day before it thawed?

SC

Unfortunately, the whole area is bigger. The ice spot - the ice cube is smaller; it's about three-quarters the size of a dime. However, where we formerly had a little steamy vapor on the window, it's now all crystalized into a nice frosty spot, approximately 2 to 2-1/2 inches in diameter.

SC

Okay. Those breakers were closed, Dick. Uh, I'm going to go to the other bus for awhile; let's see what happens.

CC

that right?

Okay. I assume you've been on BUS 1. Is

SC

(garble) I notice we've been on BUS 2.

CC

Okay. Fine. Thank you.

SC

Say, Houston; CDR.

CC

Go ahead.

SC

(Garble) the command module housekeeping 7 tonight, running that loop for an hour, any chance of cutting that heater back in?

SC

Is it something we need to worry about?

CC

Stand by.

SC

You don't have to answer it right now. I just thought I'd pass it along.

SL-II MC-1026/2
Time: 08:29 CDT, 22:13:29 GMT
6/15/73

CC CDR, Houston. In answer to your question, we're not concerned about the heater operation during the check; however, we do want to make sure - I think the last step, which I think is a pen and ink in your checklist for that CM7, is to make sure the circuit breaker on that heater is put to OPEN, but no problem during the check.

SC That secondary heater has a fuse back in the service module; it doesn't have any circuit breaker.

SC We talking about the same heater?

CC Maybe not. I'll get the answer. We're going LOS, CDR. We're going to see you at Goldstone at 13:55. Be advised our initial look at the command module is looking real good. The team is going to go off and get together and look at some of the backroom data, and later on this afternoon we'll give you a good briefing as far as the systems status that we saw on the ground here today.

SC Okay. Where's your meeting?

CC Clancy's office. Can you make it?

SC No, I thought it might be some place else.

Bye.

CC (Laugh).

CC CIRCUIT BREAKERS, SECONDARY COOL HEATER,
CONTROLLER MAIN A to OPEN.

SC Got you.

PAO This is Skylab Control at 13 hours 39 minutes Greenwich mean time. We've had loss of signal with Guam. Next station to acquire will be Goldstone in about 15 minutes. Pete Conrad winding up now this 4-hour checkout of command and service module systems. The initial look here on the ground indicates all of the Apollo command module systems are looking good. Science Pilot Joe Kerwin has finished his initial, Apollo Telescope Mount run of the day and should be having lunch about now.

END OF TAPE

SL-II MC-1027/1

Time: 08:40 CDT, 22:13:40 GMT
6/15/73

PAO

- - and Pilot Paul Weitz will begin another run of the Apollo telescope mount about right now. He has switched the wardroom window heater to another BUS - another electrical distribution system - to see whether he can get that ice to melt. Reports a very small piece of ice about the size of a dime. However, there's a larger frosty area 2 to 2-1/2 inches in diameter along the window that they would like to melt and get rid of. We'll come back up just prior to acquisition at Goldstone. At 13 hours 41 minutes this is Skylab Control.

END OF TAPE



SL-II MC-1028/1

Time: 08:52 CDT, 22:13:52 GMT

6/15/73

PAO This is Skylab Control at 13 hours 53 minutes Greenwich mean time. Skylab coming up now on acquisition at Goldstone. Flight Director Phil Shaffer and his group of command and service module flight controllers have left the control room, now, for a meeting to go over all of the CSM data they've seen. The crew will get a report on that checkout later today. Initial look shows the data is very good and systems are good. We'll stand by for conversation at Goldstone.

CC Skylab, Houston. We're AOS stateside for the next 15 minutes.

PLT Okay, Richard. (Garble) the OPERATING light stayed on. I turned the flare (garble) and blink, on came the READY light and out went the OPERATING light.

CC Thank you very much, Paul.

PLT I'm back to FLARE ENABLE now. And the READY light stayed on. Next time I (garble) turn the FLARE switch to INHIBIT while I'm running and see if it goes from OPERATE to READY like it's supposed to. Is that all right?

CC Roger. That's affirm.

PLT Thank you.

CC And Skylab, Houston. Back to the question that we were talking about, about the heater up in the command module. It turns out that the fuse that you referred to is in the heater portion of the circuit. And it is in the service module. The problem, we think, is in the control loop probably, or possibly a shorted switch. And the circuit breaker that I was referring to is on Panel 5. It's ECS, secondary coolant loop heater control MAIN A circuit breaker, and it is listed in your systems checklist. And you'll get to that on the housekeeping check tonight and the last step - or one of the steps in there is to - when you leave the command module it'll be OPEN.

CDR Right side. I'll remember that. Okay.
Fine. Thank you.

CC Roger.

CC And Skylab, Houston. For your information, this stateside pass, you're passing over the west coast up around Salem, Oregon. You're going to pass over just to the south of the Great Salt Lake. You've got to go over a portion of the Grand Canyon, and going to hit the Gulf of Mexico coming away from the United States between Houston and Victoria.

SC Roger. Thank you.

END OF TAPE

SL-II MC1029/1

Time: 09:06 CDT, 22:14:06 GMT
6/15/73

CC Skylab, Houston. We're 1 minute to LOS.
Vanguard coming up at 14:20 and we plan to dump the data
tape recorder there.

CC Skylab, Houston be advised we understand
in active region number 1 there is a subnormal flare that is
now in progress and two of the instruments are recording
information from it.

SC Good.

PAO This is Skylab Control; 14 hours 11 minutes
Greenwich mean time. The Merritt Island Florida tracking sta-
tion has had loss of signal with Skylab. Next station to
acquire will be the Vanguard tracking ship off the east coast
of South America in about 8-1/2 minutes. Pete Conrad is in his
lunch period now. Joe Kerwin just winding up lunch ready to
begin some housekeeping chores and Paul Weitz operating the
Apollo telescope mount. We'll come back up just prior to
acquisition at the Vanguard. At 14 hours 12 minutes Greenwich
mean time this is Skylab Control.

END OF TAPE

1964 7 20 10:00 AM

SL-II MC-1030/1

Time: 09:18 CDT, 22:14:18 GMT
6/15/73

PAO This is Skylab Control at 14 hours 19 minutes Greenwich mean time. Skylab over South America, coming up within range of the tracking ship, Vanguard. We'll stand by for that pass.

CC Skylab, Houston. We're AOS Vanguard for 8 minutes.

SC Houston, Skylab. I'd like to - you to be the first to know that the PLT is the proud father of a genuine flare.

CC Very good.

SC Just about the time you called, he got a high PMEC count, and this time it was confirmed by image intensity count being over 300, by a bright spot occurring on the X-ray image. It involved the 1 and the 4 positions and was confirmed - the M16 - it was confirmed by a very bright spot on the XUV monitor. He decided to slew the H-alpha. We found a flare in active region 31, a factor of 10 brighter than any other plage we've seen. In other words, it was unmistakable once it happened. We were on the flare, he got probably a minute and half or 2 minutes of flare rise, we're at flare fall now, and if the ATM would like us to do post-flare on the next rev, the PLT is willing to cancel his housekeeping (garble) and all that. Not cancel; just delay.

SC The maximum PMEC was 840, Houston. We are in the high mode.

CC Roger that. And if you would be willing to delay your housekeeping 7J, which I know is very important, we sure would appreciate it, because we've been looking forward to catching one of these.

SC So have we; we're all just as proud as new daddys.

CC Good show.

SC Like I told them before we went, he had six hands up there as soon as he announced it.

SC Houston, SPT. We've got a bit of a problem here determining the end of flare fall and could use some friendly advice from the ground, because we're now hearing the South Atlantic anomaly, and our PMEC isn't very useful to us anymore. As a matter of film remaining, I'd like to know whether the PIs would like us to continue flare fall for this whole pass or to go in to post flare?

CC Roger. Stand by.

SC We still have very definite indications on the visual displays. I would prefer continuing flare fall.

CC Roger. Stand by, please.

CC SPT, Houston. We agree with you; we'd like to continue flare fall. We believe that you can use the XREA to monitor the flare during this period, possibly.

SL-11 MC-1030/2

Time: 09:18 CDT, 22:14:18 GMT
6/15/73

And also, we think that S056 is maybe hung up. We'd like you to go STOP/START on that for us, please.

SC Okay.

CC Roger.

SC Houston, SPT.

CC Say again, please.

SC This is SPT. The S055 has kicked the detectors off a couple more times during this mirror light scan. And we're running now with detector 5 off; that's for their information.

CC Copy, Joe.

SC And can they verify whether S054 is complete yet?

CC SPT, Houston. Affirmative, 54 is complete. We'd like you to go the flare fall portion, and it appears that 56 is hung up again. If you'll help us out again, we'd appreciate it.

SC Okay. Thank you.

CC Skylab, we're 1 minute from LOS. We're going to have a long LOS period. See you at Goldstone at 15:32. So have fun.

SC Bye.

END OF TAPE



SL-II MC-1031/1

Time: 09:27 CDT, 22:14:27 GMT
6/15/73

PAO This is Skylab Control; 14 hours 29 minutes Greenwich mean time. Vanguard has had loss of signal. The Skylab will not be acquired at the Australian sites or by Guam, or Hawaii on this revolution number 461. So we will have a very long LOS. About an hour and 2 minutes. Goldstone will be the next station to acquire. As you heard, Science Pilot Joe Kerwin announced that the Pilot, Paul Weitz, was the proud father of a genuine flare. Weitz is operating the Apollo telescope mount. This is the first genuine flare of the Skylab II mission. There have been several subnormal flares observed, but this is the first genuine solar flare of this mission. It was impressive enough that Joe Kerwin volunteered to delay his housekeeping chores to assist Weitz in the ATM operation, a not insignificant sacrifice since his housekeeping chores were 7J, his weekly shower. We'll come back up prior to Goldstone in about an hour. At 14 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1032/1

Time: 09:42 CDT, 22:14:42 GMT
6/15/73

PAO This is Skylab Control at 14 hours 43 minutes Greenwich mean time. An Apollo telescope mount briefing will be held in the JSC News Center at 10 a.m. central daylight time today. There will be 7 participants, ATM experimenters and managers from the Marshall Space Flight Center. That's a briefing on Apollo telescope mount experiments at 10 a.m. central daylight time today in the JSC News Center. The television now on the screens in the News Center is a playback from tracking stations of video tape that was dumped earlier today. It consists of Apollo telescope mount television and television of experiment ED31, a student experiment on bacteria and spores. We're still 47-1/2 minutes away from acquisition at Goldstone. At 14 hours 44 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1033/1

Time: 11:08 CDT, 22:16:08 GMT
6/15/73

PAO This is Skylab Control at 16 hours 7 minutes Greenwich mean time. We accumulated 9 minutes of tape during that news conference, 6-1/2 minutes over the Goldstone and Texas stations. And 2-1/2 minutes at the Vanguard tracking ship. We're about 58 minutes away from acquisition at Hawaii. We'll play the tape for you now.

CC Skylab, Houston. AOS at Goldstone, 11 minutes.

SC Roger, Houston.

CC Skylab, Houston. Getting back to a question that you guys asked awhile ago. On the times we've been giving you for the Horns and also for the South Atlantic Anomaly, turns out that our information about the radiation shows naturally that the radiation belts drift around and the numbers we've been sending up to you, are our best information at the time. Now we've got a couple of choices, one is that we can take a look at some recent data, something that we could look up here in real time and try to pad it a little bit in either direction, or just advise you of this fact and continue to send up the times under the same ground rules. But we do not have any better data that's available to us in a short period of time and probably the best data is coming from your work and is going to take quite a bit of time to analyze that. That looks like a kind of next mission task. Out.

SPT Okay, Houston. The situation has modified itself somewhat since we related that to you this morning. Based on our knowledge now that with the real honest-to-gosh flare, the energy intensity count, the X-ray image, XUV monitor and a number of other things tend to confirm what's going on it, so that indicates our only problem is reacting to off-console and whether to set the tone light switch to enable or not when you're off the console. And I would suggest that we live with the estimates as you've been giving them to us. And in addition you might, perhaps, consider setting up a committee to try to make the belts stop moving.

CC I think that's a good suggestion, Joe, and maybe that committee can do its work and do a little bit better job for the next crew.

PLT Okay. Say, Houston. 56 keeps hanging up, I've been watching it, stopping and starting it. I'm restarting it for the 5th time on this pass.

CC Roger. Adam copies.

PLT Houston, the CDR says that he's tearing up the nasty letter he had written to Dr. Van Allen.

CC Roger.

CDR (garble) committee that Dr. Kerwin suggested.

SI-II MC-1033/2

Time: 11:08 CDT, 22:16:08 GMT
6/15/73

PLT Dick I've been logging the frame counter reading and the filter indication at which 56 has been stopping, hanging up. Does anybody care about that, do they want it or can I forget about it?

LC Stand by. Yes, sir, we sure would like it, go ahead I'm copying.

PLT Okay. Frame counter at the start of this pass was 2777. It hung up with a count of 62 on filter 3. Next time it hung up with a count of 38 on filter 3. Next time with a count of, and I can't figure this one out, with a count of 37, in again at filter 5. And the last time was frame count of 22 on filter 3.

CC Roger, Paul. Copy.

PLT And I've also finally found a secret for the READY light for 82A. Doesn't go out as long as you have the flare enabled, I mean the READY light does not - -

END OF TAPE

SL-11 MC-1034/1

Time: 11:12 CDT, 22:16:12 GMT
6/15/73

SC They've also barely found the secret for the READY light for 82 A. It doesn't go out as long as you've got the flare enabled. I mean the READY light does not come on, at least the few times I've tried it here. But if I inhibit the flare and terminates the exposure, the READY light comes on each time and so forth.

CC Roger. Copy, Paul.

SC (Garble) data pointer at S056. The first half was 07 on filter 3.

CC Copy.

CC And, PLT; Houston. I'm not sure what you have in mind about your schedule for the rest of the day to get in your HK-7 Juliet. But if you need to - to not do the next ATM pass that you're scheduled for, in order to accomplish that, that's fine. It's your choice. Or if you want to fit it in, as you guys best see fit, press on.

MCC I'll let him in with me.

SC We'll work something out.

CC Rog.

SC (garble) 56 hung up again on its screwy indication. It (garble) one frame to 2706 and indicates (garble) 5.

CC Roger.

CC Skylab, Houston. Initial thoughts on the 56 hang up are that it's probably a mechanical misalignment that somehow has taken place in the camera. We've got no way to - in the magazine. We've got no way to help you out on it now, except to continue - continue to restart it. However, we think it should be corrected when you replace the 56 camera on the EVA.

SC Okay.

CC Skylab, Houston. We're 45 seconds from LOS. We're going to see you at Vanguard at 15:58. We're going to dump the data recorder at Vanguard, and we're cleaning up the last of the VTR downlink here at Goldstone. So anytime at your convenience after this, the VTR is yours with 30 minutes available tape on it.

SC Okay. We gave you some of the notes.

(Garble) sorry to bother you (garble) notes yet.

CC Paul, that was a little broken up. I think I copied that you put some of the flare information on H-ALPHA and XUV MON on the VTR. Is that Charlie?

SC That's right.

CC Very good. We (garble) look at it.

CC Skylab, Houston. Vanguard 7 minutes.

SC Roger.

SL-II MC-1034/2

Time: 11:12 CDT, 22:16:12 GMT

6/15/73

CC Skylab, Houston. Be advised that NOA has reported that the flare that you have taken data on has been classified as 1 bright, and it's an M-4.

SC Okay, thank you.

CC Roger. Thank you.

SC Houston, does that mean we can keep it, or do we have to throw it back?

CC It's your choice.

CC I think we've already got it anyway.

SC (Static) Somebody stepped on it while we were gone at night.

CC Sorry, we broke off for a second. I didn't copy that one.

SC It wasn't worth repeating. Never mind.

CC Roger. Never minding.

SC I believe that's properly nevering mind.

CC PLT, Houston. Due to the film remaining in 54, we request that after you complete the sequence you're in, discontinue post - flare fall operations with S054. And also, I have a change in the flare guidelines that comes up to you on the solar activity pad for 54. The - to be used for the next 2 days - Any future flares, the flare mode should be M-3IP16, - M3IP16.

CC Okay. You want this change made on this one now, and it'll be reflected on the (whis ' solar activity (garble).

CC Roger. We want to discontinue 54 operations now on this one and use those flares in the future. We're going LOS here at Vanguard. We're going to see you at Hawaii at 17:06.

SC All right.

PAO This is Skylab Control at 16 hours 17 minutes Greenwich mean time. That's the end of the tape that was accumulated over the States and the Vanguard. Skylab is 48 minutes away from acquisition at Hawaii. At 16 hours 18 minutes, this is Skylab Control.

END OF TAPE

SL-II MC1035/1

Time: 12:02 CDT, 22:17:02 GMT

6/15/73

PAO We have acquisition of signal. This is Skylab Control at 17 hours 4 minutes. We'll stand by for the call from spacecraft communicator Dick Truly - presently on duty.

CC Skylab, Houston we're AOS at Hawaii for the next 6 minutes. Be advised this pass we're up to our old tricks - we're updating some rate gyro drift compensations. And we'll probably be doing this both at Hawaii and Vanguard and then we'll update your onboard message telling you what they are.

CC Skylab, we've completed our uplinks on the rate gyro update so we won't have to do any at Vanguard. No response required.

CC Skylab, Houston. We're about 30 seconds from LOS. Vanguard at 17:34.

SC Okay.

SPT Okay, B-channel M171 postrun. Oxygen is 72.40. Water is 4.51; CO2 is 2.03. They're all changing slowly.

CC Hey, Joe. Make sure you're on B-channel.

PAO This is Skylab Control at 17 hours 12 minutes 40 seconds Greenwich mean time. We have lost signal at the Hawaiian tracking station. Our next acquisition of signal is at Vanguard in approximately 21 minutes. The flare spotted earlier this morning was the first major flare to be spotted on the Skylab mission after nearly 3 weeks in the air. The flare was placed in active region number 31 which is near the center of the side of the Sun now facing Earth. And it was in the upper right-hand quadrant of the Sun, been very near the center. Although the astronauts had been informed by teleprinter that "probe probabilities are highest yet", active region 31 was not listed as an area of high probability. The solar flare - sudden disturbance of the Sun's surface - that emits high energy radiation into space was the size expected only about once every 2 to 3 months during a period of low activity on the Sun. We are presently in a period of such low activity. The flare was classified as a 1 bright M4 - that was number 1 bright M4 - which describes both its optical brightness and its radiation output. A 1 bright solar flare covers an area of at least 2 square degrees - that is an area about 1.4 degrees on a side, and emits bright light. The rating scale for area runs from 0 to 3 on a logarithmic scale. One indicates between 2 and 5 squares degrees. That is an area from approximately 1.4 degrees on the side to approximately 2.1 degrees on the side. The bright rating is a rating that one of three ratings available for optical brightness. The others are dull and normal, so "bright" is the brightest of optical in optical visibility. In addition the M4 rating

SL-II MC1035/2

Time: 12:02 CDT, 22:17:02 GMT
6/15/73

indicates the X-radiation class of the solar flare at peak intensity. The M class is a moderate class, C class is anything that can be detected - X is a very large class - M is a moderate class. The 4 rating indicates the number of times one has to multiply the ergs per centimeter square per second energy of the solar flare, so that this solar flare was producing 4 times 10 to the minus 2 or 0.04 ergs per centimeter squared per second. That's the total X-radiation at peak intensity. The solar flare began at 14:01 GMT or approximately 9:01 Central daylight time this morning. It was spotted by the ATM console and Pilot Paul Weitz. It reached its optical brightness peak at 14:09 or 9:09 central daylight time. The X-ray maximum was at 14:13 or 9:13 central daylight time and the approximate time of ending was about 14:51 GMT or 9:51 central daylight time. To repeat those times the solar flare began at 14:01 GMT, reached it's optical peak at 14:09, it's X-ray peak at 14:13 and came to a conclusion approximately 15 minutes after it began at 14:51. At the present time the crew is engaged in the M092, M171 experiment with the subject, Commander Pete Conrad, and Science Pilot Dr. Kerwin is observing. We will have acquisition of signal again in about 17 minutes and 25 seconds. This is Skylab Control at 17 hours 16 minutes 27 seconds Greenwich mean time.

END OF TAPE

Longest Space Duration

SL-II MC-1036/1

Time: 12:31 CDT, 22:17:31 GMT
6/15/73

PAO Skylab Control at 17 hours 31 minutes 29 seconds Greenwich mean time. Recovery operations control room here at Skylab Mission Control reports that USS Ticonderoga, the ship that will participate in the recovery operation, carrying the Skylab Mobile Laboratory, departed the port of San Diego this morning at 16:00 Greenwich mean time, or 11 a.m. Central Daylight Time. It is presently enroute to the recovery area, to the southwest of San Diego. Recovery is still, of course, not until a week from today, early in the morning. I believe the time schedule is approximately 8:50 in the morning, Central Daylight Time. We are now waiting for acquisition of signal at the Vanguard ship station and we expect that in about a minute and a half from now, when spacecraft communicator Dick Truly will call the crew. We'll remain live for air-to-ground.

CC Skylab, Houston. We're AOS Vanguard for 8 minutes.

CC Skylab, Houston. Be advised we're going to, that ASCO's going to command a NAV update to staff.

SC (garble)

SC Houston, say again, please.

CC Roger. We need to have the DAS, we're going to command the NAV update.

SC Okay.

CC Skylab, Houston. We're through with the NAV update, the DAS is yours again.

CDR Roger, Houston. Thank you.

CC Roger.

CC Skylab, Houston. We're 45 seconds from LOS, Hawaii at 18:41.

PAO This is Skylab Control at 17 hours 44 minutes 18 seconds Greenwich mean time. We have lost signal at the Vanguard station. Our next acquisition of signal is nearly an hour from now, 56 minutes and 39 seconds. We have received a revised record time for the longest single mission in space. A check of our records maintained by the Library of Congress indicates that the Soviet Space Station SO-US 11 was manned during a 23 day 18 hour 22 minute total mission in 1971, that's 570 hours and 22 minutes, 23 days 18 hours and 22 minutes for a total mission in 1971. The Skylab crew expects to surpass that mark early Monday, at 2:22 a.m. Central Daylight Time, June 18th. This would make Skylab, the first Skylab mission the longest duration in space for man thus far. That's at Monday at 2:22 a.m. Central Daylight Time, to surpass the record of Soyuz 11 set 2 years ago. This is Skylab Control at 45 minutes 24 seconds after the hour.

END OF TAPE

SL-II MC-1037/1

Time: 13:24 CDT, 22:18:24 GMT

6/15/73

PAO Skylab Control at 18 hours 23 minutes and 39 seconds Greenwich mean time. We'd like to announce that there will be a solar flare activity television - freeze frames of the 4 frames of the solar flare activity spot of this morning. That will be at 1:30 p.m. central daylight time in the briefing room, in building 1. Present for the briefing will be Dr. Guisseppi Vaiana, one of the investigators on experiment S054. He is with American Science and Engineering of Cambridge, Massachusetts. Dr. Vaiana will be available to discuss the freeze frames that will be pictured at 1:30, approximately 12 minutes total time, four separate frames. This is Skylab Control, at 18 hours 24 minutes 22 seconds Greenwich mean time.

END OF TAPE

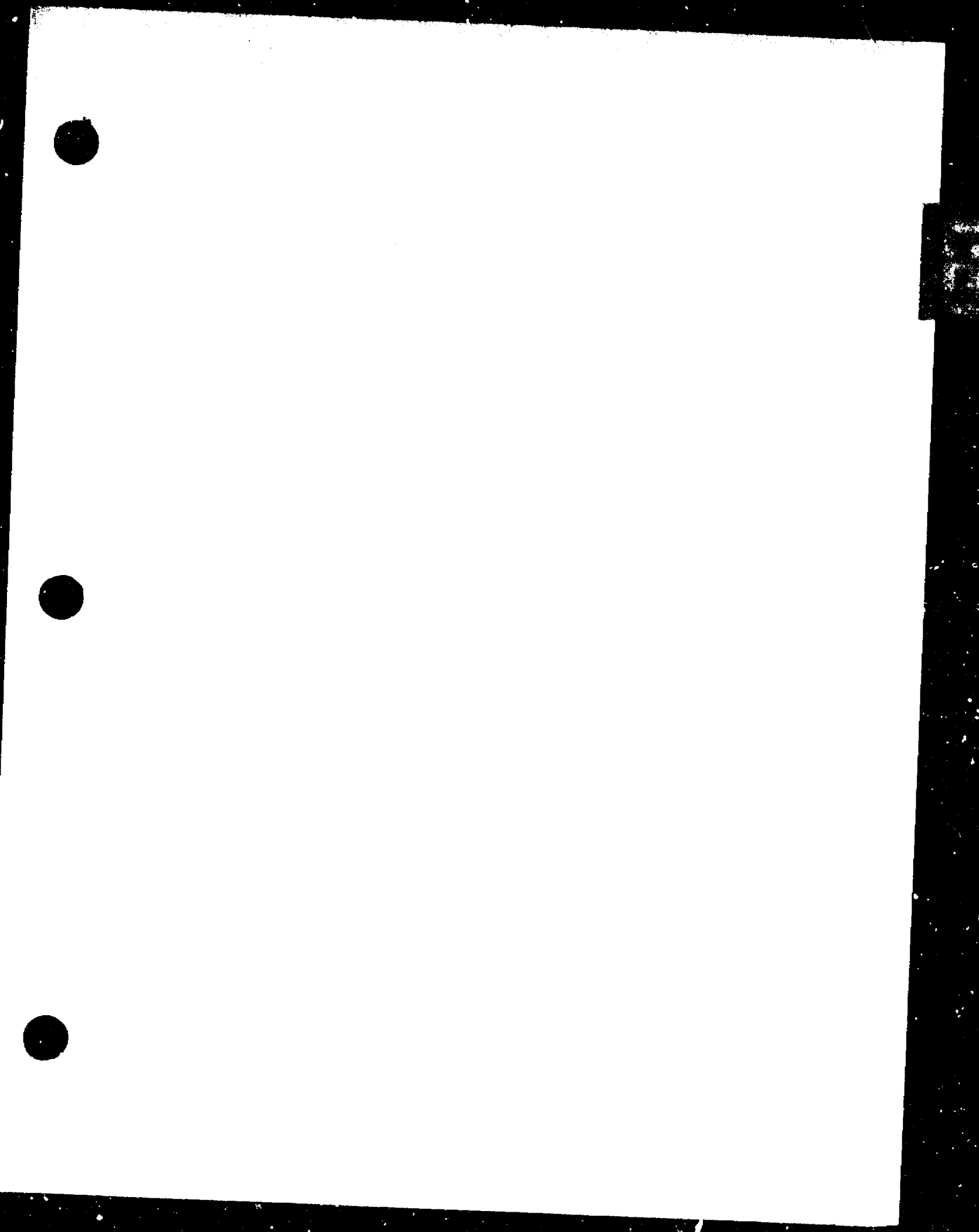
SL-II MC-1038/1

Time: 13:28 CDT, 22:18:28 GMT

6/15/73

PAO Skylab Control, at 18 hours, 28 minutes, 50 seconds Greenwich mean time, approximately 1 minute to the beginning of the solar flare activity television and discussion and briefing in the briefing room, room 135 in building 1. Dr. Guisseppi Vaiana will be available, one of the investigators on S054. S054 is the x-ray spectrographic telescope. Dr. Vaiana of American Science and Engineering of Cambridge, Massachusetts, will be available for discussing the four freeze-frames to be shown at 1:30 central daylight time. That's a little less than a minute from now. This is Skylab Control at 29 minutes, 28 seconds after the hour.

END OF TAPE



SL-II MC1039/1
Time: 13:57 CDT, 22:18:57 GMT
6/15/73

PAO Skylab Control at 18 hours 57 minutes 49 seconds Greenwich mean time. We are going to have some replay of the air to ground over Hawaii. Very little said aboard on the air to ground except one important announcement which I'll mention before we start playing it. Skylab is presently traveling southeast on a descending node over the South Pacific, having just crossed the equator a short time ago. A review of this morning's entry number 7 - entry minus 7 checkout of the command module systems which lasted several hours has now been completed. The flight team reports very good results from the checkout conducted by Skylab Commander Pete Conrad, assisted by Pilot Paul Weitz this morning. The entry minus 7 checkout tests basic elements in the guidance, navigation, and communications systems. The gyros used to guide the spacecraft during its return from the Skylab space station or service propulsion system of the command module. This morning's checkout included a procedure to align the command service module's attitude control system. Conversations between flight controllers and astronauts in the command module are used - the command module's VHF radio rather than the S-band system usually used for Skylab communications with the ground. The VHF radio will be used during the reentry operation. The computers were also brought on line for the guidance and navigation tests and they performed very well. Only one deviation from normal was recorded during the checkout. Differential clutch currents were at off-scale low. The differential clutch is connected to the motors that move the service propulsion system engine and permits that engine to be shifted in different directions. Although the readings were off-scale low it is believed that this reading was an anomaly due only to a minor failure in the telemetry data rather than to an actual condition aboard the command module. Flight controllers are now demonstrating that it is now, in fact, an error in instrumentation rather than an error in the operation of the differential clutch. Several hours will be spent early tomorrow simulating the actual entry, beginning with the beginning with undocking and going through the deorbit of the spacecraft. That'll begin early this morning - approximately at 6 a.m. - running through a good part of the morning hours. We have an announcement on EVA for Skylab mission. Tests have been continuing on the thermal shield material used on the parasol now deployed on the orbital workshop. This material, an aluminized Mylar nylon laminate with the nylon facing the Sun, deteriorates in strength due to exposure to ultraviolet rays. Samples have been exposed to simulated sunlight at the Johnson Space Center, the Marshall Space Flight Center, the Lewis Research Laboratory, the Goddard Space Flight Center and

SL-II MC1039/2

Time: 13:57 CDT, 22:18:57 GMT

6/15/73

TRW. All tests verified the material is satisfactory for retention in place during the unmanned period without jeopardizing the workshop. Therefore, a decision has been reached not to deploy the twin-pole thermal shield. That is - not to deploy the twin-pole thermal shield during the planned EVA, Tuesday, June 19. The normal EVA to retrieve the ATM film will continue to be scheduled for the morning of Tuesday, June 19. Plans are for the replacement of the parasol early in the next Skylab manned mission with the twin-pole thermal shield. A replacement parasol with an improved thermal shield material will be stowed on Skylab III - the next manned launch as a backup to the twin-pole device. To repeat, that is the evidence from a number of tests conducted on that parasol show that it is not necessary for it to be replaced at this time for the unmanned period, but there will be a replacement using the twin-pole thermal shield during the plan to replace it during the next Skylab manned mission with that twin-pole thermal shield. The normal EVA to retrieve ATM film will be conducted Tuesday, June 19 in the morning. You will hear approximately 5 minutes of air to ground. One of the things that comes up on the air to ground is an announcement to the crew that there is a burning tanker off the west coast of Chile - located at approximately 44 degrees south - 75 degrees west. The crew has been asked to take handheld photography out of the window if possible of the tanker, which is located approximately 150 miles north of the groundtrack of Skylab. They'll be reaching that point in a few minutes just before they reach acquisition of signal at Vanguard. The time of closest approach to the tanker is 19 hours 13 minutes and 55 seconds, or approximately 9 minutes - approximately 11 minutes from now. This is Skylab Control. We are now replaying the air to ground from -

END OF TAPE

Tanker Burning

SL-II MC-1040/1

Time: 14:02 CDT, 22:19:02 GMT
6/15/73

PAO 19 hours 13 minutes and 55 seconds, or approximately 9 minutes from now - I'm sorry, approximately 11 minutes from now. This is Skylab Control. We're now re-playing the air-to-ground, from the Hawaiian Tracking Station, taking place a few minutes ago. Here is the air-to-ground.

SC

Skylab.

CC

Skylab, Houston at Hawaii for 10 minutes.

SC

Roger. This is the SPT. Do you want real-time television this time, Dick?

CC

Stand by.

SC

Okay. I put some on the tape. That's good enough or I'll stand by.

CC

Negative, I get the word that we do desire real-time TV on this pass, Joe. And I have one note here to read to you guys.

CC

Skylab, Houston. We show indications that the star-tracker is unlocked. We'd like you to attempt to reacquire for us. And I have some information I'd like to pass up to somebody that's going to be free. We have a photographic target of opportunity, coming up between this LOS and the Vanguard AOS, that I'd like to read to you.

SC

Go ahead.

CC

Roger, Pete. We've had reports that there's a large tanker that's burning very close to the - or off the west coast of Chile. The coordinates are 44 degrees south and 75 degrees west, and your time of closest approach is - on this rev is going to be at 19:13:55. And if possible and one of you is free, we'd like either Hasselblad or Nikon photography, whichever you think best, handheld out the window. We think the tanker probably will be about 150 miles north of your groundtrack.

SC

I see (garble) of our ground track. I would love to catch that (garble). Up in the SCS, I believe our wardroom window is looking further and further south. Okay?

CC

Roger.

CC

Skylab, Houston. Back to the subject of startracker - G&N says you guys have had a star presence indication. We think it is locked on a particle, and I've got an outer gimbal number here that I'd like to read to you.

SC

Okay. Come ahead, Houston.

CC

Stand by just a second. I got it. Skylab, Houston. The inner gimbal is plus 0284; outer gimbal plus 2027.

SC

Okay. I copy that, Houston. Just a few minutes ago, when I was looking at the coronagraph, there was a veritable storm of particles over Vanguard. I don't know how large they were, but they were bright enough to cause the vidicom to cycle up and down dramatically. I don't know what they were due to.

SL-II MC-1040/2

Time: 14:02 CDT, 22:19:02 GMT
6/15/73

CC Roger. I understand.

CC Skylab, Houston. On the venting, we are continuously venting some hydrogen out of the command module that we've been aware of. It is possible that we may have vented some O2, but we're not aware of that or any other vent.

SC Okay. Tell the guys - In the command module, the oxygen was 870.

CC Roger. Copy.

CC Skylab, Houston. We're 1 minute from LOS. Vanguard at 19:12, and we're going to dump the data recorder there.

SC Okay.

PAO That's the conclusion of the replay of conversation between the Skylab astronauts and the ground at the Hawaiian Tracking Station just passed. I have an additional announcement on the deployment of the - the nondeployment of the next parasol. William Schneider, the Skylab Program Director, will be available for a briefing at 4:30 p.m. central daylight time. That's 4:30 p.m. central daylight time in building 1 at the Johnson Space Center. He will be available to discuss the reasons for not deploying the twin pole thermal shield at this time and any other subjects that may be of interest. At the present time we're about 4 minutes from acquisition of signal at Vanguard. Last time acquisition of signal did come a bit earlier than we'd expected, a couple minutes early. And we'll be coming back up again in about 2 minutes. This is Skylab Control at 7 minutes - 8 minutes after the hour.

END OF TAPE

Hard to find Tanker

SL-II MC1041/1

Time: 14:11 CDT, 22:19:11 GMT
6/15/73

PAO Skylab Control at 19 hours 11 minutes
5 seconds Greenwich mean time. At the present time we're
approaching the Vanguard tracking station. In about 2 minutes
we expect to have an opportunity to take photographs of the
burning tanker that is off the west coast of Chile at 44 deg-
rees south, 75 degrees west. The crew has been asked to
take pictures either using their 35-millimeter Nikon or their
70-millimeter Hasselblad camera out of one of the windows
of the spacecraft - probably the wardroom window, if it is
possible to get photographs. We'll heat, I'm sure, at
Vanguard one way or the other whether they're taking those
photographs. To remind you, there is a Change of Shift Briefing
tentatively scheduled for 3:15 p.m. with Charles Lewis, the
flight director that's just gone off. Don Puddy is now
on duty. Spacecraft communicator is William Thornton. He'll
be talking to the crew in just a few moments, as they get
acquisition of the signal at Vanguard. This is Skylab Control
staying live with air-to-ground from Vanguard.

CC Skylab, Houston; AOS 9 minutes.
SC Roger, Houston. We're looking for the
tanker, but it's very cloudy - I don't think we're going to
be able to pick it up.

CC Copy.
CC SPT, Houston.
SPT Go ahead.
CC We see S073 2-Charlie on, but we don't
see the experiment recorders on.

SC Roger.
SC It's my fault. Paul's in the shower.
(garble) switch for him and then turn the recorders on. Bye.

CC We copy, Skylab.
CC Skylab, Houston.
SC Go ahead.
CC We want you to close the vent on the ward-
room window until further notice. May be some - -
SC I've already closed it.
CC Copy; closed.
CC And we're working on procedures to improve
it, and we'd like for you to report any conditions such as - Is
it warm to touch now? Does it have ice on it? And it may be
caused by thermal cycling and breathing through the vent tube.

SC Okay. It's not particularly warm to the
touch, and it has ice on it. It's pretty much the way the FLT
described it to you several hours ago.

CC We copy. And we're going LOS here. We
will have you again at Hawaii at 20:23.
SC Okay.

SL-II MC1041/2

Time: 14:11 CDT, 22:19:11 GMT
6/15/73

CC
SC
PAO

S073 GAIN switch to LOW, Skylab.
Roger.

Skylab Control. We have lost signal at the Vanguard tracking station. It appears from the commentary from the crew that they were unable to get photographs of the burning tanker off the coast of Chili. Those photographs were a target of opportunity. In other words have been specified - we do receive data on short lived events, short lived phenomena from Smithsonian Institution in Massachusetts, and that was apparently one of those things that had been passed along by the Earth resources operations officer. He indicated that that would be a desirable target of opportunity for the handheld camera. It appears though that cloud cover might have interrupted or interfered with that picture taking. This is Skylab Control at 22 minutes and 56 seconds after the hour, and we will have acquisition next time one hour from now. Opportunity for it at Vanguard - I'm sorry, at Hawaii that'll be a very short pass - 54 second pass. They may drop that. The next opportunity after that is 1 hour 27 minutes. Skylab Control, 23 minutes and 15 seconds after the hour.

END OF TAPE

SL-II MC-1042/1

Time: 14:52 CDT, 22:19:52 GMT

6/15/73

PAO Skylab Control at 19 hours 52 minutes 22 seconds Greenwich mean time. We have an unusual surprise for you. Charles Lewis, the off-going flight director, has his coat over his shoulder and is just now exiting from the Mission Control room, headed for building 1 and a briefing, which it looks like now will begin ahead of schedule, at a few minutes before 3 o'clock. We should expect about 3 o'clock for that briefing with Charles Lewis, the off-going flight director. This is a change-of-shift briefing. This is - At the present time the spacecraft is out of range of signal and will continue to be so for the next 30 minutes. This is Skylab Control at 52 minutes 56 seconds after the hour.

END OF TAPE

SL-II MC1043/1
Time: 15:22 CDT, 22:20:22 GMT
6/15/73

PAO Skylab Control we have acquisition of signal and expect to hear a call any moment. We'll be up live in Hawaii.

CC Skylab, Houston. AOS for 1 minute.
SC Hello there.
CC Got a couple of questions here and a bit of information. They have apparently decided that the Marshall shield will not be deployed on Skylab II.

SPT Aw, we just got it out and dusted it off.
CC Copy.
CC And when do you plan the TV tour - at what station passes for our planning purposes?
SPT Oh, we were going to put it on tape.
CC Ah, copy. And could you give us an approximate time of that?
SPT Well, we're trying to work it out - I've got another ATM pass after dinner and Paul's at the console now. It'll probably be a good hour - hour and a half.
CC Maybe you can kind of tie a string to one of those guys and carry him around for me, Jee.
SPT (Laughter) okay. Can't get into your other thinking (garble)
CC Copy. On the secondary coolant loop in the CSM we want the secondary coolant heater control main A - circuit breaker, panel 5, pulled sometime this evening.
SPT Okay.
CDR That's its normal configuration, Houston. I had it in a little while ago during the 7 day CSM house-keeping check. It's now again open for checklist.
CDR Did you read that, Houston?
CC Stand by 1.
CC Go ahead, Pete.
CDR I said I just finished systems housekeeping 7. That breaker is open as it is supposed to be - it's normally open.
CC Okay, Pete. I guess that left us a little breathless here for a second. And we're going to be coming up on the Vanguard at 20:50.
CDR I can leave you breathless. It's been open for 22 days except for the 7 day check.
CC We'll dig some more, Pete.
PAO Skylab Control at 26 minutes and 28 seconds. We had a very long period, much longer than we expected at Hawaii - about 3 minutes before - although the spacecraft communicator William Thornton didn't take advantage of it until actual time and then we had a couple of minutes afterwards. The next acquisition of signal is 23 minutes and 37 seconds from now at Vanguard tracking ship. This is Skylab Control at 26 minutes 52 seconds after the hour.

END OF TAPE

SL-II MC-1044/1
Time: 15:36 CDT, 22:20:36 GMT
6/15/73

PAO Skylab Control at 20 hours 36 minutes and 12 seconds Greenwich mean time. At the present time the spacecraft is traveling over the South Pacific, headed towards the Vanguard tracking site. And we came up to announce that there will be a press conference with Astronaut Story Musgrave to discuss and to watch film of the ED31. That's an educational experiment, that carry-on spores experiment run by a high school student from Rochester, New York. That will be at 4 o'clock in the briefing room of building 1. So in 25 minutes, you will have Story Musgrave available in building 1 to discuss ED31 and to watch the second play of TV-17, TV-18. That's at 4 o'clock - Story Musgrave. This is Skylab Control at 36 minutes 56 seconds after the hour.

END OF TAPE

SL-II MC-1045/1
Time: 15:47 CDT, 22:20:47 GMT
6/15/73

FAO Skylab Control at 20 hours 47 minutes and 59 seconds Greenwich mean time. At the present time we are approaching the Vanguard Tracking Station. Because the air-to-ground from Vanguard will interfere with the press conference which is to begin shortly at 4 o'clock, we will be making a recording of that air-to-ground and will play that back at the earliest opportunity. So the voice from Vanguard will be played back at a later time, as will probably the Ascension pass. This is Skylab Control at 48 minutes and 32 seconds after the hour.

END OF TAPE

SL-II MC1046/1

Time: 15:57 CDT, 22:20:57 GMT
6/15/73

PAO Skylab Control at 20 hours 57 minutes and 15 seconds Greenwich mean time. We'd like to remind you that in approximately 2-1/2 minutes, there will be a discussion of experiment ED number 31, bacteria and spores experiment, one of the high school experiments, and it will - the discussion will be conducted during the replay of TV-17 and TV-18, two television versions of that experiment. And Storey Musgrave, the astronaut, will be available for a press conference at 4:00 p.m. central daylight time in the briefing room of building 1 at the Johnson Space Center. This is a reminder. That 4:00 o'clock briefing is just about to begin. This is Skylab Control at 20 hours 57 minutes 59 seconds Greenwich mean time.

END OF TAPE

SL-11 MC-1047/1

Time: 16:24 CDT, 22:21:24 GMT

6/11/73

PAO Skylab Control at 21 hours 24 minutes and 42 seconds Greenwich mean time. At this time we will play back the air-to-ground that was recorded over Vanguard and Ascension Tracking Stations. Total air-to-ground was only about a minute and a half. There was very little conversation between the crew and spacecraft communicator, William Thornton, but we will play back that air-to-ground from the last two tracking stations at this time. There is a - to be a briefing with William Schneider at 4:30 in building 1, in the briefing room - William Schneider, Director of the Skylab Program Office. And we will have that briefing shortly after we have replayed this air-to-ground. Here is the air-to-ground.

CC Skylab, Houston. AOS for 10 minutes.

CC Skylab, Houston; AOS for 9 minutes.

SC Roger, Houston.

CC We'll be LOS in 1 minute; Ascension at 21:04.

SC Okay.

CC Skylab, Houston; AOS 9 minutes.

CC Skylab, LOS in one minute. You will have the medical conference at Guam at 21:50.

SC Houston, roger.

CC Go, CDR.

CC Go, CDR.

SC Did you receive the status report?

CC Pete, I'm afraid we've lost you.

SC Okay. (Garble)

PAO This is Skylab Control. After that exciting interchange at the last two tracking stations, they did note during the pass that the next tracking station, Guam, which is 23 minutes from now, will be reserved for a private medical conference, that's to take place at 21:50, or at 2:50 central daylight time. Correct that, at 4:50 central daylight time. That will be the next pass at the Guam Tracking Station for the private medical conference to discuss the present state of the crew's health. This is the daily conference. At 4:30 there is the briefing with William Schneider, Director of the Skylab Program Office, in the building 1 briefing room. This is Skylab Control at 27 minutes 32 seconds after the hour.

END OF TAPE

SL-II MC-1048/1

Time: 15:53 CDT, 22:21:53 GMT

6/15/73

PAO Skylab Control; 21 hours 53 minutes and 8 seconds Greenwich mean time. We are going to bring up live the Guam commentary, although we have already had acquisition of signal for several minutes at Guam. We do expect a private medical conference to be underway. But we will bring it up live in case that medical conference is completed and they turn the voice back over to Skylab Control. This is Skylab Control at 53 minutes and 30 seconds remaining live for the Guam pass.

CC AOS for 3 minutes.

SC Roger.

SC Got any news tonight?

CC Yeah. I'll give you some in just a second. On the ATM, we've sent a pad up; should be in the teleprinter now, on unattended OPS on H-ALPHA 1, and if you could implement that as soon as possible please.

CC I'm sorry. Delay that. That's after the last pass. That's to be implemented after the last pass.

SC Okay.

CC Not a whole lot in the news tonight.

It says the President has named General Weyand as new Chief of - Vice Chief of Staff to succeed General Haig, who is retiring to become White House Chief of Staff. There's something a bit different in New York this evening. Apparently, the purse snatchers jumped a 19-year old girl, grabbed her purse and ran for a taxi, and a hundred people surrounded the taxi and wouldn't let it move until the cops came.

SC (Laughter).

CC Afraid the price of dollars keeps dropping and gold keeps going up, in case anybody has any gold.

SC Got some stowage.

CC Pete might be interested in this.

Apparently, they had a small earthquake in Massachusetts 4 or 5 on the Richter scale and it didn't do any real damage.

SC Goodness, that must be the first in quite a while up there.

CC Yeah. I thought things were super stable up there. Poor American tourists are paying 19 percent more than they expected, that is they're getting 19 percent less for their dollars.

CC East and West Germany have applied for membership in the United Nations. We're going LOS here in approximately 30 seconds. We'll have you over Vanguard at 22:27.

SC Roger, Houston. Thank you.

PAO Skylab Control at 21 hours 57 minutes and 50 seconds Greenwich mean time. We have lost signal now at the Guam tracking station. The next acquisition of

SL-II MC-1048/2

Time: 16:53 CDT, 22:21:53 GMT
6/15/73

signal is approximately 1/2 hour from now at the Vanguard Station - Vanguard Ship off the coast of Argentina. At this time we will be down for the next 30 minutes. I do have an announcement for those of you who are interested in following the details of the entry sims to be performed tomorrow morning. They're expected to begin at approximately 5:48 a.m., that's 10:48 Greenwich mean time. And you may follow them by looking at your original flight plans, we finally have a use for those. The flight plan that was put out earlier in the year is essentially correct. You begin - On the flight plan you have - it has it beginning at approximately 14:30, instead it should begin at approximately 11 hours Greenwich mean time. At that time the phase elapsed time clock will be set to 15:00, as it says in the instructions, start entry sim, instead of 14:37 Greenwich mean time, it will be approximately 11:00 Greenwich mean time. We will set the phase elapsed time clock, that's the clock that's used for timing events - specific events. We will set that at 1500 hours and from there on the flight plan is essentially correct, and that will be the procedure used tomorrow. For those of you who need help, that's page 3-28 in the flight plan. This is Skylab Control at 59 minutes and 26 seconds after the hour.

END OF TAPE

SL-II MC-1049/1

Time: 17:26 CDT, 22:22:26 GMT

6/15/73

PAO Skylab Control at 22 hours 26 minutes and 22 seconds Greenwich mean time. We are just about to have acquisition of signal at Vanguard, and we expect to have two more passes during the rest of the evening, and those will be the last two passes before the crew goes to sleep as we suspect. Should hear a voice of spacecraft communicator, William Thornton calling up to the crew. Flight Director is still Donald Puddy. This shift is on for another three or four hours. This is Skylab Control. We'll stay live for air-to-ground from Vanguard tracking station.

CC Skylab, Houston, AOS 11 minutes.

SC Roger, Houston. We'll be giving you the evening status report.

CC We're standing by Pete, go ahead.

SC Okay, the CDR ate everything plus two butter cookies. Caught me. The SPI ate everything except one coffee. PLT ate everything except corn and bread with dinner, coffee and his snack. He didn't have - he had a Delta H20 plus 1.0 and an optional salt of 2.5 and I'm sorry, the CDR had his optional salt, 10.0.

CC We copy that, Pete.

SC Okay. Photolog day 166, 16 millimeter (garble) 35 millimeter CI30, frame count 44; CI28, frame count 50; 70 millimeter CX06, 103. No EREP. Drawer A: A-1 02 Charlie India 12, 100 percent; Charlie India 05. A-2 is 03 Charlie India 06, 35; Charlie India 03. A-3 is 06, Charlie India 13, 100 percent; Charlie India 10. A-4 is 05, no supply, no film; Charlie India 11 to tape dump. Floating, 07, Charlie India 0966 (Garble) 003. The flight plan was completed as scheduled today. In addition we did 552-1. We have three remaining to go. We'll get them tomorrow. Can't think of anything else. As soon as Joe gets done with his ATM pass, we're going to do the TV tour, one of them, and go to bed. So, it'll be on the tape in about an hour - an hour and a half.

CC Copy that, Pete.

CC Pete, the crew questions should be coming up in a moment. If you don't have time to get to them this evening we'll catch them tomorrow.

SC Okay.

SC Bill, I want to verify the position of a couple of circuit breakers down here in the workshop. The thermal control system logic breakers are still open. Is that what you intend - where you all thought they were? Is that you where you want them?

CC Stand by a half on that one Paul.

SC Okay.

CC That is affirm, Paul. We want those out.

SL-II MC-1049/2
Time: 17:26 CDT, 22:22:26 GMT
6/15/73

SC Okay. The thing that surprised me after we got back after EVA, and I wasn't aware of it, I could not turn the fans ON from the workshop until I'd closed those breakers. Then once we got the fans going, opening the breakers had no effect, but apparently after those power (garble) turn them on when they're in the OWS position in the airlock. I say that Bill, because it's a surprise to me. You may pass it on to (Garble) (Garble). I don't know if he knows it or not.

CC Okay, and we're looking at it to confirm that it's the way its supposed to go down here.

SC Okay, why don't you confirm with your drawing, that's not the way it works.

CC Okay.

CC Did you have another one, Paul?

SC Thank you, that's all, Bill.

CC Okay, and be advised that no further consideration is being given to additional EREP pass - -

END OF TAPE

SL-II MC-1050/1

Time: 17:32 CDT 22:22:32 GMT
6/15/73

SPT Negative, that's all, Bill.
CC Okay, and be advised that no further consideration is being given to additional EREP passes.
SPT Okay, thank you.
CC LOS in 1 minute. We'll have you at Ascension at 22:41. And SPT, Houston.
CC And it is SPT that you may be through at the console. The 5% filter goes to 1 and stowage. And H Alfa, should be placed in unattended ops for the pab, that went up earlier.

SPT Bill, we did not - I didn't find any pad in there. You had better tell us what you want.

CC Okay, we'll catch you on this next pass coming up.

PAO Skylab Control at 22 hours 39 minutes Greenwich mean time. We've lost signal at the Vanguard tracking station, and we expect to acquire again at Ascension in approximately 2 minutes and 20 seconds. The question sent up to the crew included questions on operations of the EREP, stowage of film, some questions regarding the stowage, list number of those, and also a question on the redesign of waste management compartment foot restraint. They'd like the crew to make suggestions on that, to come up with some ideas on that. They did indicate that they would like to ask later on some questions about Earth Resources so that they can use these in the training of the Skylab III crew, the next Skylab crew to go up. Tomorrow's flight plan calls for an early morning motion sensitivity run of the M131, or human vestibular, or balance function. The M131 involves sense of balance that human beings can feel in space. Today the ocular gyro illusion portion of M131 was performed. This ocular gyro illusion is an illusion produced by eye movements. It's used to measure sensitivity to very slight movement in the semicircular canals. Because of the illusion, you can measure sensitivity levels much lower than would normally be reported by a crew member. Permission has been given for rotation speeds up to 50 revolutions per minute tomorrow. That's near the maximum speed of 35 revolutions per minute on the rotating literature. And during the motion sensitivity, or motion sickness phase of M131. Paul Weitz will be the subject rotated in the spinning chair. So far the astronauts have shown no indication of motion sickness even at speeds well above those causing sickness on Earth. Tomorrow's run will be at the highest speed so far. This experiment begins at 4:20 a.m. central daylight time tomorrow. Most of the morning tomorrow will

SL-II MC-1050/2
Time: 17:32 CDT 22:22:32 GMT
6/15/73

be occupied with a simulation of maneuvers for splash down. This simulation or run through begins before undocking of the command module and runs through the deorbit burn. We're now coming up on acquisition of signal at Ascension, so we will remain live for air to ground from Ascension.

CC Skylab, Houston, AOS 7 minutes.

CDR Roger, Houston.

CC And we will send you another copy of that pad up during this pass. That's for the H-Alpha 1 unattended obs.

CDK Can you tell me what it is?

CC Do you want me to read it, Pete?

CDR Yeah, if you can right here. You might as well pull it down.

CC To allow H Alfa 1 picture taking and during unattended observations at the power down, configure ATM as follows; H Alfa 1, camera power switch ON, H Alfa 1, door switch OPEN, H Alfa 1 frames per minute switch 1, VERIFY H Alfa 1, night innerlock switch override, H Alfa 1, auto switch - -

END OF TAPE

SL-II MC-1051/1

Time: 17:42 CDT 22:22:42 GMT

6/15/73

CC H-Alpha 1, AUTO switch. AUTO.
To return to normal H Alpha 1 OP. We'll send you this pad
up tonight and this remainder will be on it.

CDR Okay.

PAO Skylab Control. We have a brief loss
of signal. We will again pick up the station immediately
at Canary Island and then at Madrid. We'll remain live for
this air to ground.

PAO Mission Control has reported - this is
Skylab Control - Mission Control has reported that the
crew at the present time is involved in doing a tour of
the spacecraft for television. Doing it live for dumping
there and for that reason there will be very little com-
munications during this period. They are running through
the various parts of the spacecraft and attempting to record
that on television. But we will remain live for any poss-
ible air to ground during these last two tracking stations.

CC Skylab, one minute to LOS for bedtime
and we will be dumping the tape recorder at Guam at 23:25.
From the quiet sounds of things down here, you must have
had a very busy day up there.

CDR We're doing that (garble) right now.
And we'll see you in the morning. Thank you.

CC Good night.

END OF TAPE

SL-II MC-1052/1

Time: 18:00 CDT 22:30:00 GMT

6/15/73

PAO Skylab Control at 23 hours 1 minute and 20 seconds, Greenwich mean time. We have finally lost signal at the Madrid tracking station. We are not expected to acquire any data again for 23 minutes. The crew at this time been instructed to go to sleep. They've indicated as we lost signal, that they were completing their tour of the spacecraft with the television camera, and we do not expect to hear from them again during the evening. Most of tomorrow morning, in addition to the M131 activities to begin at 4:20 a. m. will be occupied with a simulation of maneuvers for splashdown. The simulation or run through will begin before undocking of the Command Module in the simulation splashdown procedures and will run through the deorbit burn. During such a simulation the crew practices all the necessary activities just as they will occur during the hours before splashdown next Friday morning. But no actual movement of the Command Module takes place. Simulations are essentially verbal going throughs of necessary activities with the crew acting out their roles in a kind of rehearsal. The crew was informed during this past series of communications that they would have no further EREP activity during the mission. That's Earth Resources experiment package activities. This had been expected, but some consideration was requested for an additional EREP pass, and this had been mentioned to the crew earlier. Flight planners decided today that insufficient time was available for an additional pass, which would require several man hours of effort. So the crew has said goodnight at 6:00 p. m. and they will be awakened tomorrow morning at 2:00 a. m. central daylight time, after 8 hours of sleep. This will adjust the Skylab sleep schedule to 6:00 p. m. sleep and 2:00 a. m. wakeup for the remainder of the flight, with the exception of that final day before splashdown. That's an attempt to change the circadian rhythm or the sleep habits of the space crew so that they will be in good shape for that short period of sleep the final night before they splashdown. We expect no further communications from the spacecraft. This will be the last report until 2:00 a. m. This is Skylab Control at 3 minutes 35 seconds after the - I'm sorry. One final message. We do have a report from the surgeon, following the Guam pass Skylab crewmen are still enjoying an excellent state of physical well-being and a high level of morale. That's the private medical conference report from the surgeon. This is Skylab Control, signing off until 2:00 a. m. tomorrow morning at 23 hours 3 minutes and 59 seconds, Greenwich mean time.

END OF TAPE

OTOM AVELKA

SL-II MC-1053/1

Time: 01:58 CDT, 23:06:58 GMT

6/16/73

PAO This is Skylab Control at six hours 59 minutes Greenwich mean time. We're a couple of minutes away from acquisition at Madrid. We'll be sending a wake-up call to the crew at acquisition. The crew now on the schedule of wake-up at seven hours Greenwich mean time or 2:00 a.m. central daylight time, and go-to-sleep time 6:00 p.m. central daylight time. This schedule will prevail until the night before re-entry. The primary activity today will be a re-entry simulation for the crew and the flight controllers in the Mission Control Center. We'll stand by now for the first communications of the day at Madrid.

CC Skylab, Houston. Good morning.

SC Boy, you're Johnny on the spot aren't you?

CC Well, we just happened to have a site here with about nine minutes to go at Madrid.

SC I expected so. (garble)

SC Hey, Hank, you got somebody sitting down there that doesn't have anything to do for a minute?

CC What you got in mind?

SC How many revs have we gone and how many miles?

CC Skylab, Houston, all your pads are onboard now and we're working on - we don't have a FIDO here. I guess we're trying to figure out how many revs it is, but the workshop is on rev 471, but y'all haven't done that many.

SC Yeah, Paul says he can sure tell who's important. I think we're on about 320 something or 330.

CC That's the ball park figure.

SC I keep losing track, out during the night time.

CC You haven't been putting ticks on the wall, counting them?

SC Yeah, but we've run out of wall space in my bedroom.

SC Hey, Hank, while I got you real quick we never did put the easy questions on B channel.

CC Oh, you didn't do that? Okay.

CC Are you going to get to that sometime today?

SC Yeah, well let me answer a couple of them.

SC Question number two about EREP swabs.

We got EREP swabs coming out our tape recorder (garble)

CC You've got a big squeal there. What did you say?

SC I say, question number two which was how about the inventory on EREP tape recording cleaning swabs. We've got those things coming out our ears. Those guys don't

SL-II MC-1053/2

Time: 01:58 CDT, 23:06:58 GMT
6/16/73

need to bring any up on their film. Three.

CC Okay, copy.

SC And question number three, the SPT does
have all that data in his log book and he will return it.

CC Copy.

SC Number four, and should the redesign of
the waste management compartment foot restraint include acceptance
of triangles, mushrooms and bare feet. If they didn't use
a different cloth on the existing ones right now they will
accept all of those anyhow. And it's just that the cloth
- it's that cloth that they're using - it's plastic and it
just doesn't allow you to open it up or close it down depending
on what you're wearing on your feet at the time. Then ought to be
softer and longer.

CC Roger.

SC We do recommend you look for something
straight for the rotating litter chair. What we're using is
just a plain ole strap up here and it does the job but it's
not too suitable. And on S082A, did the flare execute flag
indicates flare 82 is operated in the flare mode. To the best
of PLT's knowledge it did.

END OF TAPE

ONS/Strawey

SL-11 MC-1054/1

Time: 02:11 CDT 23:07:11 GMT

6/16/73

CDR And on S082A did the flare execute flag indicate flare 82 is operated in the FLARE MODE. To the best of the PLT's knowledge it did. Got number 7, well question number 7, I'll have to put on tape. And CDR, 8, what is the status of 553. Wheel 1 is completely done on 553. Wheel 2 has the three balls that are not - that do not come off done, and two that do come off done. And I'm ready to return that for them to examine the whole wheel.

CC Roger.

CDR Nine. I did answer the question. Don't forget the workshop was in a screwy attitude when we rendezvoused with an EGIL special or something and I don't think it's a - I think you can use the ATM solar wing as a means to range on but I can't say what they look like, cause it wasn't in the same attitude it's gonna be in for SL-3.

CC Roger, and we're just about to LOS now, Pete. Honeysuckle at 46.

CDR Okay.

PAO This is Skylab Control at 7 hours 11 minutes Greenwich mean time. Madrid has had loss of signal of Skylab. Next station to acquire will be Honeysuckle in Australia in approximately 35 minutes. During this wakeup pass the crew asked the number of revolutions and their total milage to date. Here on the ground some of the flight controllers are coming up with those numbers that will probably be passed up to the crew on the next pass over Honeysuckle. The revolution number 471, which appears on the map, is revolution number for SL-1, the Skylab workshop. During the latter part of the pass over Madrid, Skylab Commander Pete Conrad was answering a series of questions which had been sent up to the crew on the teleprinter in a supplement to yesterday's execute package. We'll come back up just prior to acquisition at Honeysuckle. At 7 hours 12 minutes, Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1055/1

Time: 02:44 CDT, 23:07:44 GMT
6/16/73

PAO This is Skylab Control at seven hours 45 minutes Greenwich mean time. Skylab approaching acquisition at the Honeysuckle, Australia tracking station.

CC Skylab, Houston through Honeysuckle six minutes.

SC Good morning, Hank. Would you care to join us in a cup of coffee?

CC Well, I wish I could. I'm sipping on a Pepsi Cola right now. Hey, you know the other day, I guess it was several days ago, you reported on - I think it was your pointing went off about a half of a solar radius and so you had to enable the MPC and drive the wedge back. We've been looking into that and we think we've got the answer here. The fine Sun sensor wedges when they're under the ATM DC control are rate limited and we think if you had waited they would have eventually have caught up with you.

SC Well, Hank, it was a pretty abrupt thing. It's only happened a couple of times. It darn near jumps off a half a radius.

SC That's right.

SC The other guys are saying that's right, indicating it happened to them also.

CC Well, it may have been a little - maybe we misunderstood the problem. It sounds like it's a little different than we thought.

SC I think so.

SC Also, Henry, for status. We've put us up a portable fan again yesterday to try to keep our air to gain a little bit. That thing does more good than I gave it credit for. We've actually come down a degree according to our - on one yesterday morning.

CC Okay, have you got that in the dome hatch again?

SC That's right. In the dome hatch, blowing workshop air on the A station and left.

CC Roger.

CC While you're sipping your coffee there, I guess I could give you the SAP update. We had several flares, all small, over the last several hours. In active region 27 there was a sub-faint, no X-rays, and in active region 31 we've had no activity since yesterday's bright M4 flare. Active region 41 has had two sub-normals without X-rays, so all in all I guess it's all pretty quiet.

SC Okay, we're waiting.

SC They're reported on B channel. Saw one at 35 last night.

CC At what time?

SL-11 MC-1055/2

Time: 02:44 CDT, 23:07:44 GMT

6/16/73

SC If I recall, it was about 22:03. Was a small one, there was a little X-ray, a little (garble) associated with it, but it did not trigger the flare alarm.

CC Roger, copy. And we're about 30 seconds from LOS. Hawaii will be coming up at 08:00 with a recorder dump.

PAO This is Skylab Control at seven hours 53 minutes Greenwich mean time. Honey-suckle has had loss of signal with Skylab. The next station to acquire will be Hawaii in about 13-1/2 minutes. The crew's having breakfast, still about another hour left in their post-sleep activities. At the end of that time Commander Pete Conrad will activate the SO73 experiment. That's the Gergenschein zodiacal light experiment. That's installed in the scientific airlock. And at nine hours 20 minutes G.m.t., the Pilot Paul Weitz is scheduled for an M131 run, the human vestibular function experiment. This will be the motion sensitivity phase of that experiment and they will rotate the litter chair as high as 30 revolutions per minute, which would be a new high for RPM's on the chair. Paul Weitz will be the subject with the Science Pilot Joe Kerwin as the observer. There will be a brief Apollo telescope mount run by the Science Pilot, Kerwin, following M131. All together today, one hour 58 minutes of Apollo telescope mount operation is scheduled. And the entry simulations - the - are due to start about 11 hours Greenwich mean time. We're 11 minutes away from Hawaii acquisition. We'll come back up just prior to that pass. At seven hours 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-1056/1

Time: 03:06 CDT 23:08:06 GMT

6/16/73

PAO This is Skylab Control at 8 hours 6 minutes Greenwich mean time. Skylab is within range of the Hawaii station. We'll stand by for conversation there.
PAO The spacecraft communicator is astronaut Henry Hartsfield. Flight director on this silver team is Neil Hutchinson.

CC Skylab, Houston through Hawaii, 7 minutes.
SPT Roger.
CC Hey, Joe, we looked at our data here, and Hawaii picked up a subnormal flare in active region 43 last night at 22:02. It peaked at 22:05 and they didn't get any X-Rays.

SPT I'll check my coordinates, Hank.
CC Skylab, Houston, we're about 30 seconds from LOS. Goldstone at 18.

PAO This is Skylab Control at 8 hours 15 minutes Greenwich mean time. We've had loss of signal at Hawaii. And Goldstone will acquire in about 2 minutes. We'll stay up during this brief LOS.

END OF TAPE

SL-11 MC-1057/1

Time: 03:16 CDT 23:08:16 GMT
6/16/73

CC Skylab, Houston through Goldstone, 7
minutes.

PAO This is Skylab Control 8 hours 18 minutes
Greenwich mean time, and Goldstone does have acquisition now.

CC Skylab, Houston. One minute to LOS.
Bermuda at 29.

SPT Roger, Houston. I caught that flare
in active region 35, because it was an unfamiliar area
and it looked to have about the right coordinates. 43
wasn't even on the pad at the time. Nor is it on this morn-
ing. I think I remember hearing about it, but, I don't know
it's coordinates. So it could have been 43. If it's down
in that region.

CC Okay.

CC Skylab, Houston through Bermuda 6-1/2
minutes.

END OF TAPE

SL-II MC-1058/1

Time: 03:29 CDT, 23:08:29 GMT

6/16/73

CC SPT, Houston. We just checked up on that active region 43. It's real close to 35. It's about best we can guess about 150.3 and 35 is 120.5.

SPT Okay, I'm sure that wasn't (gsrble), Hank.

SPT Thank you.

CC Skylab, Houston. One minute to LOS, Canaries at 38.

PAO This is Skylab Control at eight hours 37 minutes Greenwich mean time. Skylab is now bridging a small gap between coverage of the Bermuda station and the Canary Island station. Canaries will have acquisition within a few seconds. We'll stand by for that pass.

CC Skylab, Houston through Canaries 9 and 1/2 minutes.

SPT Roger.

PAO This is Skylab Control. Flight Director, Chuck Lewis and his bronze team of flight controllers are preparing to relieve Flight Director Neil Hutchinson and the silver team. Neil Hutchinson has scheduled his Change-of-shift briefing for 4:15 a.m. central daylight time in the news center briefing room at the Johnson Space Center. Change-of-shift briefing scheduled for 4:15 a.m. central daylight time. The spacecraft communicator on the bronze team will be Astronaut Dick Truly. Flight Director Phil Shaffer and the purple team of flight controllers will also be in the control center handling the entry simulations for the command and service module. Purple team specializes in the command and service modules and will be the prime team during entry. At four and a half minutes left in this pass at Canaries. We'll stand by.

END OF TAPE

SL-II MC-1059/1

Time: 03:45 CDT 23:08:45 GMT
6/16/73

PAO This is Skylab Control 8 hours 48 minutes Greenwich mean time. Canary station has had loss of signal, however Ascension will pick up Skylab in about 30 seconds for a 3 minute acquisition. As Skylab just skirts the edge of the Ascension range. A low - very low elevation angle, 1.3 degrees. We'll stand by for this short Ascension pass.

PAO This is Skylab Control at 8 hours 52 minutes, Greenwich mean time. Ascension has loss of signal. The next station to acquire Skylab will be Honeysuckle in 30 and 1/2 minutes. We'll come back up just before acquisition. At 8 hours 52 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1060/1
Time: 04:21 CDT 23:09:21 GMT
6/16/73

PAO This is Skylab Control, 9 hours 21
minutes Greenwich mean time. Skylab coming up on acquisition
at Honeysuckle.

CC Skylab, Houston. AOS at Honeysuckle
for 8 minutes.

CDR Roger.
PAO This is Skylab Control. Flight Director
Neil Hutchinson has left the Control Center in route to the
JSC News Center for the change of shift briefing. That
briefing should start shortly after loss of signal at
Honeysuckle, in about 3 minutes.

PAO This is Skylab Control at 9 hours 31
minutes Greenwich mean time. Honeysuckle has had loss of
signal. Hawaii will acquire in about 12 minutes. We'll
take the line down now for the change of shift news con-
ference with Flight Director Neil Hutchinson. At 9 hours
32 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1061/1

Time: 04:53 CDT, 23:09:53 GMT

6/16/73

PAO This is Skylab Control at 14 hours 1 minute Greenwich mean time. We're about a minute and a half away from acquisition at Goldstone. We've acquired 40 seconds in tape at the Hawaii station. We'll play that now and go into Goldstone live.

CC Skylab, Houston. We're AOS Hawaii for the next 9 minutes.

CC Skylab, Houston. We're about 20 seconds from LOS. We're going to see you at Goldstone at 9:56 and be advised that this stateside pass we'll be cranking up the entry sim. I will have some final pad updates for you. There'll be - and per the entry message, I guess you're going to copy them on sheets that you've taken out of the SWS updates book. There'll be two P30 pads and an entry pad.

CDR You mean the pads you're going to send us are the ones I already have?

CC These are updates to the pads you already have, Pete.

PAO This is Skylab Control, that's the end of the tape. We're a few seconds away from AOS at Goldstone we'll stand by for this stateside pass.

CC Skylab, Houston. We're AOS Goldstone for 6 minutes.

PLT Say, Dick, I got an observation for you. I'm not sure who's interested in it, but can't find anybody else to leave (garble) for him to pass on to Paul (garble). Will you please?

CC Go ahead.

PLT I was looking around to see if I could see Seattle. We got thunder right before we came up on it. I was watching sunrise and in the airglow - at the top of the airglow at sunrise, I saw this, what they call a nomilus or what I understand to be an anomilis occasional white line in the layers, the different color layers. And right at the very top of the airglow I seen the white line before, only this time it had form to it, just like you're looking at clouds, like the sun was shining on clouds. It was very strange. I've never seen it before. It's always been a line before and this time as I say, it had form. like there were clouds in there, much (garble) clouds, I think.

CC Roger, Paul. Thank you much and I'll pass it on.

PLT Thank you.

CC And Skylab, Houston. I do have updates for the pads that we sent you on the teleprinter. The updates I have are for the shape burn and the retrofire burn, which are P30 pads and also a final update to the Entry Pad that

SL-II MC-1061/2

Time: 04:53 CDT, 23:09:53 GMT
6/16/73

you go up on the teleprinter. I'd like to read them up when you've got time to copy.

SC Wait 1.

CC Roger.

CDR Okay. I'm ready for the P30c.

CC Roger. This is the shape burn. NOUN 33, 016, 55, 5750 minus 2610 plus 0000 plus 0655, 359, 193, 000, 2543, 0011, 3080. It's a 14 second, 4 quads, the NOUN 47, weight 28238, pitch trim plus 057, yaw trim minus 011. Go ahead.

CDR Okay. That was the P30 shaping, NOUN 33, 016, 55, 5750 minus 2610 plus 0000 plus 0655, 359, 193, 000, 2543, 0011, 3080. 14 seconds, 4 quad 2823, pitch plus 057, yaw minus 011.

CC That's affirmative. Now, I've got one update for the Retrofire Burn.

CDR Go ahead.

CC NOUN 33, 020, 00, 0170, minus 1848, plus 0300, plus 0453, 000, 180, 000, 1750, 0007, 0390. This is 14 seconds, 4 quads also, weight 27491, the trims, plus 058, minus 023.

END OF TAPE

SL-II MC1062/1
Time: 05:00 CDT, 23:10:00 GMT
6/16/73

CC Minus 0 2 3 and stand by 1 on the readback.
Pete we're about 30 seconds from LOS here at Goldstone. We're going to have a short break and we're going to see you in Bermuda and in about 2 or 3 minutes I'll pick you up and get the readback there. There's one remark on that second pad and that is the command module RCS capture is a perigee altitude of 45 nautical miles. I'll see you at Bermuda. And we'll have state vectors ready to uplink at Bermuda.

CC Skylab, Houston we're AOS at Bermuda for the next 10 minutes and I'm standing by for the readback, Pete.

CDR Roger.
CDR (garble) 8, plus all zips, plus 0 4 5 3, 000, 18, 0000, minus 7500007 0390; 14 seconds four quads 7491 plus 058 minus 023 perigee capture are 45 nautical.
CC Roger, and when you started reading back the first four lines down through Noun 81, DELTA-VX you dropped out. Would you read me those four lines again, please.
CDR 020, 00, 0170, minus 1848, plus all zips, plus 0453.

CC Roger, got all that and I've got an entry pad update for you.

CDR Go ahead.
CC Roger. Starting with area; 476-5 doff, 039, plus 2262 minus 12977, 11524, 25979, 2610, 2643, minus 02974. Right 55 55; 3116, 26 21, 3006, 3413. Go ahead.
CDR Okay. On the entry update here you have 476-5 doff, 039, plus 2262 minus 12977, 11524, 25979, 2610, 26 plus 43, minus 02974. Right 55 55; 31 plus 16, 26 plus 21, 30 plus 06, 34 plus 13. Go ahead.

CC Roger. I've got 3 remarks to this pad. The targets north of the ground track. Lift vector is up and the pitch for rolling entry is 58 degrees and that pitch for roll and entry is on page E/5-12, and while I'm on that there was a typo mistake on the pad last night and it said page E5-2 the correct one is 5-12.

CDR Okay.
CC CDR, Houston. I've got a couple or three more notes for you. The first one is after 18 00 PET. You're P52 stars will be 37 and 45 and I have some comments to pass up to you about the flyaround.

CDR Go ahead.
CDR Go ahead.
CC CDR, Houston. I have some comments here on the flyaround. Be advised before I read them these are also accurate for entry day. First of all the major change in the flyaround is that the SWS will be in solar inertial

SL-II MC1062/2

Time: 05:00 CDT, 23:10:00 GMT

6/16/73

rather than rolled out of the plane in order to save TACS propellant, so you'll fly around in the SWS X-Z plane. And there are two cautions to be aware of during this flyaround. One is that since Beta is very close to 70 degrees - 68 to 70 degrees, you will come fairly close to gimbal lock and you must be aware of that as you do your flyaround as I'm sure you will be -

END OF TAPE

SL-II MC1063/1

Time: 05:11 CDT, 23:10:11 GMT
6/16/73

CC It runs 68 to 78 degrees. You will come fairly close to gimbal lock, and you must be aware of that as you do your flyaround as I'm sure you will be. And Kusty makes a suggestion that since you will be rolled over, you might want to consider setting up the - the GDC ball so that you can fly around in the belly (garble). That's something you might consider thinking about. The second caution note is - is that the television can't stand to be turned on within 22 degrees of the Sun. We don't think that'll be a particular problem because the flyaround is going to be fairly nominal and we're going to have early TV over the states, so probably when you get underneath the - the Skylab and looking back toward the Sun that problem will have gone away and the TV will be off. You have about 90 pounds of RCS propellant available, and the flyaround certainly shouldn't take that much. And sometime we'd like to know if you'd like your flyaround chart on page 2-14, the angle's all updated for you, we'll be glad to do that if you like. We plan to have television over (garble) from Goldstone to Mila during the flyaround. The camera configuration is unchanged from your previous information about it. And the targets are unchanged. We are particularly interested in any vent plumes, debris, particle clouds, or any discoloration on the Skylab that you see during flyaround.

CDR Okay, the distance still 300 feet?

CC That's affirmative. We're going to back out to 300 feet and go around just for nominal.

CDR Okay, go ahead and send me the new chart for page 14. And I think the other thing while we're discussing it right now - would be we're going to see about taking the TV out on the EVA. So y'all just see the parasol.

CC Roger, Pete, and I'm not sure I copied. You said you do want us to update that chart. Is that correct?

CDR I do want to update the chart. That's correct.

CC Okay, real good. Stand by I please.

CC CDR, Houston, also at this site, this is the place we'd have done some uplinks for you. We were prepared to do those. We got them out to the site so the computers yours again. And we got about 2 minutes to LOS. I have one question from the SWS flight about the operation this morning. We had a little message tucked in to the bottom of the summary flight plan that may have been overlooked. And that was, we were requested a TV 5 for your BMMD measurements this morning. We noticed VTR is at the beginning of the tape and we're wondering if we missed that one, or whether or not you got it and rewound the tape so we can make our

SL-II MC1063/2

Time: 03:11 CDT, 23:10:11 GMT

6/16/73

plans for the rest of the day.

CDR

No, we sure didn't see it. (garble)

CC

I think we stuck it on the bottom of the summary flight plan and we'll take that one. It was - it was easy to miss. No problem.

PLT

Hey, Houston, you got a minute, Dick?

CC

That's affirm, Paul. We got 1 minute to LGS and then we're going to see you guys at Ascension at 10:22, so go ahead you got about 45 seconds.

PLT

We got these EPS/ECS parameters, which the message says (garble). Now, you want values? You just want to know if they're in limits? I'll do it any way you want. And I'm sure you're aware of page 3-2 of systems checklist 3-22.

SC

You there, Houston?

CC

Roger. Stand by, please.

CC

Skylab, Houston. We're going to want the actual values. And we're very short on time here so we're going to have to you at Ascension.

PLT

Whoo, okay. See you there. (garble) many passes of that (garble) (garble).

CC

Roger, and we're going to be comparing them real-time.

CDR

If you guys want things like that on (garble) it's got to come up the night before. Was it on the night before? Saw it this morning.

CC

Have to check, Pete. We'll get that to you.

PAO

This is SKylab Control, at 14 hours 23 minutes. We've had loss of signal at Bermuda. Next station to acquire will be Ascension in about 5-1/2 minutes. The numbers of maneuvers were being read up during the stateside pass are in connection with the entry simulation that is scheduled for today.

END OF TAPE

SL-II MC-1064/1

Time: 05:17 CDT, 23:10:17 GMT
6/16/73

PAO The entry simulation. That is scheduled
for today. Skylab's orbital parameters now are 242 by 229.4
nautical miles; the orbital period, 1 hour 33 minutes 13.7 sec-
onds. We'll come back up just prior to Ascension acquisition.
At 14 hours 24 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1065/1

Time: 05:21 CDT, 23:10:21 GMT
6/16/73

PAO This is Skylab Control at 14 hours 28 minutes Greenwich mean time. Skylab coming up within range of the Ascension Island Tracking Station now. We'll stand by for conversation during this pass.

SC Are you there, Houston?

CC PLT, Houston. Affirmative. Stand by, please, just a second.

CC PLT, Houston. Go ahead.

SC Okay. I understand you want to compare these parameters real time. So do you want me to read them real time now, or do you want me to give you the values I logged a half hour ago?

CC Roger, Paul. We're having a discussion about it now. We're having an antenna problem at the site, and we're considering doing this not during the real-time stations. And we're talking about it now, and I'll get right back to you as soon as I have an answer.

SC Okay.

SC While you're down there, Houston, could you tell me what message 2130 is?

CC CDR, Houston. Say again, please.

SC What message is 2, 1, 3, 0?

CC Stand by.

PAO This is Skylab Control with a correction on the Greenwich mean time of the last announcement. They've started the phase elapse time clock for the reentry simulation in the GMT clock location. The correct Greenwich mean time as of now, 10 hours 25 minutes.

CC PLT, Houston. If you're listening, we've - I've got an alternate proposal for how to do these checks that I think will be a little bit easier on you and also on the air-to-ground.

SC Go ahead.

CC Okay. We're recording the proper subframe on board. I'd suggest that you do these checks by recording them on channel B. You can do it at any time that you have a chance, starting now. And the only thing we would appreciate it is - is if you'd give us a time hack, particularly if you take a break in, or a gap in, the time that you put the channel - the data on channel B. Then we'll dump the voice data and the subframe, and we'll put it together on the ground.

SC Okay.

SC Okay. Houston, your 2324-Alfa, day 25 transfers are complete.

CC Okay. Thank you very much.

SC And further on that 2324, I'd like to read them for the (garble) shots, and do the requirement.

SL-II MC-1065/2

Time: 05:21 CDT, 23:10:21 GMT

6/16/73

CC CDR, Houston. I didn't copy your second
comment on 2324-Alfa. Would you say again, please?

SC 2324-Alfa, the next to the last sets,
I'd like the reason and the requirements for the photos.

SC In other words, who wants them?

CC Okay. I'll get the answer for you.

SC And why?

CC Roger.

SC And for the flares, Dick, on the same
message, I'll get those housekeepings all done today.

CC Okay. Very good.

CC CDR, Houston. In answer to your two
questions, message 2130 was the day 25 transfers, which I
assume you've figured out from your report. And the second
one, I don't - I do not have a immediate answer on that
second one, but we're sure going to get you one, and we'll
get back to you when we can.

SC Okay. There are comments on the 2130
already on B channel. That's why I get very frustrated,
because I don't think anybody has B channel for a week.

CC Roger, Pete.

CC PLT, Houston. Back to the subject of
this check. We've still got about 2 minutes and 25 seconds
left here at Ascension. One thing we would like in real time
is - On panel 225, are both the 150 psi REGs OPEN? And we'd
like a read out of the N2 pressure on panel 225.

SC Well, I was wondering the same thing.
Yes, both the REGs are OPEN, and on board they read 140.

CC Okay.

END OF TAPE

SL-II MC1066/1

Time: 05:30 CDT, 23:10:30 GMT

6/16/73

CC - 150 psi REGS OPEN and we'd like a readout
of the N2 pressure on panel 225.
PLT I was wondering the same thing. Yes
both the REGS are OPEN and on board they read 140.
CC Okay. Thank you much. We're reading 142
so that check is good.
PLT Yeah, and as soon as you figure 't out I'd
like an explanation.
CDR Houston, you there?
CC Certainly, go ahead.
CDR You're 23 19 to Alpha 2. I would like you
to uplink the checklist changes to NC20. And let me see if
I can find anything else on there to (garble).
CC Roger.
SC Oh yes. Send us the procedure for dumping
the slot A propellant to CSM. I still don't understand the high
temperatures. Y'all figured the thermal wrong - or do you really
believe that high temperature?
CC CDR, Houston. We copied your question.
We're about 25 seconds from LOS here at Ascension. We'll have
you at Carnarvon at 10:55 Zulu and we'll have you an answer there.
CDR All right.
PAO This is Skylab Control; 10 hours 33 min-
utes Greenwich mean time. Ascension has loss of signal with
Skylab. Carnarvon, Australia will be the next station to acquire
in 22 minutes. We'll come back up just before acquisition at
Carnarvon. At 10 hours 33 minutes Greenwich mean time this
is Skylab Control.

END OF TAPE

"A" QND

SL-II MC-1067/1

Time: 05:54 CDT, 23:10:54 GMT

/16/73

PAO This is Skylab Control at 10 hours 54 minutes Greenwich mean time. Skylab coming up within range of the Carnarvon Station. We'll stand by for this pass.

CC Skylab, Houston. AOS at Carnarvon for 8 minutes.

SC Roger, Houston. And on the deactivation checklist, I presume all those times are correct. You guys, do you know?

CC Roger, Pete. My initial assumption is that's correct, and we're checking on that now.

SC Drag on.

CC Definitely, the PET times that are in there are correct.

SC Okay.

CC Also, Pete, I've got some answers here on quad-Alfa that might help you understand what our thinking is here. It turns out that the temps on the propellant and helium tanks, both in quad-Alfa, are about 20 degrees higher than our pre-flight thermal predictions. And we sort of suspected a degradation of the thermal control coating around quad-Alfa and we had you check that on EVA day, the other day. And you checked that and didn't see much of anything. We're not particularly concerned about these slightly elevated temperatures, but we would like to relieve the pressures in the tanks before they reach 210 psi, if they do. We plan to relieve the pressure first by using quad-A for the day 168 trim burn. We really don't feel that the quad-A to (garble) propellant is going to be necessary, but just in case it is, we are going to send you that procedure.

SC Okay.

CC Roger.

CC Skylab, Houston. Two items, one for the PLT. Paul, whenever you do get finished doing the recording you do today for us on those EPS and ECS checks, if you'll let us know, we may want to reconfigure the way we're running the recording on board. So just let us know. Also, the second thing for Pete - it turns out, Pete, if we align the GDC prior to undocking to 33.5 degrees, 10 degrees, and zero degrees roll pitch yaw (33.5, 10, and 0, prior to undocking), then that fly around chart that's already listed in the book is good, if you'd use that on the GDC. And assuming that and no update to that chart would be required and assuming that you think this is the way you might do it, Rusty's planning on flying this in the simulator sometime in the next day or so. And we'll get back to you and - just to make sure there's no hookers in there.

SC Yeah, let's do it that way. And if that's right, send me those gimbal angles on it with the checklist.

SI-II MC-1067/2

Time: 05:54 CDT, 23:10:54 GMT

6/16/73

CC Roger. I sure will do that. And just so
you understand that we'll - you will be flying around then on
the (garble).

SC

Roger, Dick.

CC

Roger.

SC

Okay. I've got the day part of the EPS
check, the EPS readings are already on phase, and right now,
even this very instant, I'm going to put the night readings
on the tape.

CC

Very good. Just let us know when you're
through.

SC

Wilco.

SC

Are you there, Dick?

CC

Roger. We're here, Still got 2-1/2
minutes left at Carnarvon.

SC

Okay. I show in this Flight Plan that
N30 (garble) converts to 1327 PET on day 29. Is that still
the way we're going to go? Is that correct?

CC

I'm checking.

SC

Okay, Dick. The night side EPS readings
are on tape now, and that's it.

CC

Thank you very much, PLT.

END OF TAPE

NOV 11 507/50V

SL-11 MC1068/1

Time: 06:05 CDT, 23:11:05 GMT

6/16/73

CC Skylab, Houston we're about 20 seconds from LOS. We're going to see you at Guam at 11:11 Gmt. We're going to dump the data tape recorder at Guam. And Pete for the rest of this entry SIM do you want me to give you AOS/LOS times and PET I'm assuming, if so, I'm going to change to that.

PLT Yes, give it to us in PET and then the first time you do it we'll see if we know how to convert.

CC Roger, and I'll give you a time hack at Guam.

PAO This is Skylab Control at 11 hours 6 minutes Greenwich mean time. Carnarvon has had loss of signal. And Guam will acquire Skylab in about 4 minutes. We'll be back up just prior to the Guam pass. At 11 hours 6 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SNC

SL-II MC1069/1

Time: 06:08 CDT, 23:11:08 GMT
6/16/73

PAO This is Skylab Control at 11 hours 9 minutes Greenwich mean time and Guam is about to acquire Skylab. We'll stand by for conversation.

CC Skylab, Houston. We're AOS at Guam for 6 minutes.

CC Skylab, Houston. I'm going to give you a time hack in about 20 seconds and the time then will be 15 hours and 20 minutes PET.

CDR How about 15:21?

CC Okay, I'll do that.

CDR You want it to be 15:21? Isn't it already 15:20?

CC I think we're 1 minute out of sync, Pete. Right now, on my mark, it's going to be 15 hours 20 minutes and 20 seconds. Stand by. MARK 15, 20, 20.

CDR Okay, well we're off by 40 seconds.

CC Okay. To continue just a little bit to talk about PET and Gmt on entry date, Pete. The times have change because of - and they are going to change - even a few seconds - even between now and entry day. And just in case you're interested, right now if today were entry date a PET of 15 hours, even, would go along with the Gmt of 08:10:41. This is not going to be a problem on entry day because we're going to - after you power up the CMC we're going to make sure the clock is all spiffed up and reading the right time and you're going to sync the MET to the CMC clock. So on entry day we should not have any kind of a problem at all. The rest of the AOS and LOS calls today will be given to you in PET.

CDR Okay. Well, you still haven't answered my question about the deactivation checklist. Is there enough difference? Are you going to update the times?

CC Roger, Pete. We're still talking about that one.

CC CDR, Houston. In answer to your question about times - there definitely will have to be some changes to the times in the deactivation checklist in Gmt. Now the PET's are also a very few minutes off. It's less than 10 because the time of undocking has changed. However, we are going to put it all together and get it up to you in plenty of time so that you can make the correct changes to the deactivation checklist well prior to entry day. We're about 20 seconds from LOS here at Guam. We're going to see you at Goldstone at 15:42.

SC Roger.

CC Skylab, Houston. This is the point where we would give you a GO for undocking. The controllers have looked at the bird. It looks good and you have a GO.

CRD Great.

SL-11 MC1069/2
Time: 06:08 CDT, 23:11:08 GMT
6/16/73

PAO This is Skylab Control at 11 hours 19 minutes Greenwich mean time. Guam has loss of signal and Skylab 11 crew has been given a GO for a simulated undocking command and service modules from the Skylab workshop, as the entry simulation is underway. Next station to acquire will be Goldstone in 15 minutes. We'll come back up just before acquisition there. At 11 hours 93 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC1070/1

Time: 06:33 CDT, 23:11:33 GMT
6/16/73

PAO This is Skylab Control at 11 hours
33 minutes Greenwich mean time. Goldstone about to acquire
Skylab. We'll stand by for the stateside pass.

CC Skylab, Houston. We're AOS stateside
for about 15 minutes.

SC Roger, Houston.

CC Skylab, Houston. We're going to drop
out for about 30 seconds as we go from Goldstone to Mila,
and that's going to occur in about 1 minute, and I'll give
you a call when we lock back up.

SC Okay.

CC Skylab, Houston. We're back in contact
at Texas; stateside for the next 11 minutes. And the only
thing that I didn't read up awhile ago or mention to you
awhile ago is that if any questions do come up as we review
through the procedures, both down here and on board, we'd
like you to, I'm sure you will, just go ahead and bring them
up in real time, and we'll talk about them as we go rather
than saving it all and having any kind of a extended debrief
at the end. We got 10 minutes left in this pass. Standing
by.

SC Okay, Houston.

END OF TAPE

CONGRATS

SL-II MC-1071/1

Time: 06:49 CDT, 23:11:49 GMT
6/16/73

CC Skylab, Houston. We're 1 minute from
LOS. We're going to see you at Ascension at 16:0, correction
16:10 and Flight wanted me to advise you that the TV reception
during the flyaround today was just exactly like it was during
the sims.

SC

Now, what are we going to say to that?

CC

Just -

PAO

This is Skylab Control at 11 hours 53 min-
utes Greenwich mean time. Bermuda has had loss of signal and
Ascension will acquire Skylab for about a 5 minute pass in
approximately 8-1/2 minutes. We'll come back up then. At
11 hours 54 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1072/1

Time: 07:01 CDT, 23:12:01 GMT
6/16/73

PAO This is Skylab Control at 12 hours 1 minute Greenwich mean time. Skylab coming within range of the Ascension Island Station now. We'll stand by for this pass.

CC Skylab, Houston. AOS Ascension for 4 minutes.

SC Roger.
CC Skylab, Houston. We're 1 minute from LOS. We're going to see you at Carnarvon at 16:40, and this is the pass where we'd give you a GO for separation. And the controllers have all looked, and you have a GO.

PAO This is Skylab Control at 12 hours 8 minutes Greenwich mean time. Ascension has loss of signal, and the Skylab II crew has been given a GO for a simulated separation maneuver from the Skylab workshop. This maneuver would be performed outside of acquisition of a ground station. Will be a small burn by the service module reaction control system. Carnarvon will be the next station to acquire in 23-1/2 minutes. We'll come back up just before acquisition there. At 12 hours 9 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

CC/ADM 1

SL-11 MC1073/1

Time: 07:31 CDT, 23:12:31 GMT
6/16/73

PAO This is Skylab Control at 12 hours 31 minutes Greenwich mean time. Skylab about to come within range of the Carnarvon station. We'll stand by for this pass.
CC Skylab, Houston. AOS, Carnarvon for 10 minutes.

CDR Roger, Houston. Would you pass the FAO that we completed M4873 Charlie, CDR, PLT and SPT and 4871 Foxtrot, and we'll get 4872 Charlie a little later on. It'll be on B channel.

CC Thank you very much, Pete and he's got that word.

CDR And also would you verify we have 30 minutes of VTR tape. We're going to take care of that tour sometime this afternoon.

CC That's affirm, Pete. You have full 30 minutes on the VTR. It's ready for you.

CDR And I assume that we'll have 30 minutes of the morning for the TV 5 you wanted.

CC Stand by on that one.

CC CDR, Houston on the TV5, negative. We're not going to schedule TV5 in the morning because of another TV requirement, it just turns out, but we will pick up TV5 in a couple of days. But in answer to question generally, whatever we schedule in the morning, the VTR will be cleaned off and it'll be ready for you.

CDR Okay.

CC Skylab, Houston I told you I was going to be talking the rest of the day in PET but I do have a message for you here that relates to GMT. As of 13:00 GMT today, which is about 25 minutes from now, in answer to your previous question, you will have been on orbit exactly 22 days. You will have flown 317 revolutions of the Earth and that equates to 7,846,000 nautical miles. And be advised if you were earning 12 cents a mile that each one of you guys would now be due \$1,083,461.30. Over.

CDR Rog, we'd like to file that claim.

CC (Laughter) Roger that.

CDR That's a feeling you're going to go for Government quarters and nothing available on a buck and a quarter a day.

CC I'll bet you're right.

CDR I know. That's what I got paid for my other three flights.

CC (Laughter) Roger.

CC Skylab, Houston we're 1 minute from LOS at Carnarvon. Guam is coming up at 16:54. This is the point where we'd give you a GO for the SPS 1 shaping burn.

CDR Rog.

END OF TAPE

SL-II MC1074/1

Time: 07:42 CDT, 23:12:42 GMT

6/16/73

PAO This is Skylab Control at 12 hours 43 minutes Greenwich mean time. Carnarvon's had loss of signal. Guam will acquire in about 2-1/2 minutes. We'll stay up during this short LOS. The mileage number at 12 cents a mile that CAP COM Dick Truly passed up to the crew was figured on statute miles. He gave them their mileage in nautical miles. The statute miles on which that figure was calculated is 9,028,843.9 statute miles. That will occur at 1300 Greenwich mean time, about 15 minutes from now. We'll stay up for the Guam pass.

CC Skylab, Houston. We're AOS at Guam for 9 minutes.

SC Roger, Houston. Are we GO?

CC That's affirmative; you are.

SC Okay, we're going.

CC Okay.

SC Since you told us about the million dollars, we've done the EVA, completed the deactivation checklist, undocked, done the fly around, and we're ready for SPS 1.

CC (laughter) Roger that.

CC Skylab, Houston. We are going to see the SPS 1 burn here at Guam on entry day, and - and we did see it here today. We would be standing by for a burn status report, and also we would be configured to watch you do your logic sequence checks here at Guam.

SC Roger that.

CC Roger.

PAO This is Skylab Control. A shaping burn, which the - Skylab II crew has just simulated performing, is a service propulsion system maneuver, the - the first maneuver in a two maneuver deorbit sequence. The shaping burn would lower perigee to 90 miles.

CC Skylab, Houston. We're go - about a minute from LOS at Guam. See you at Goldstone at 17:19.

SC (garble)

PAO This is Skylab Control at 12 hours 56 minutes Greenwich mean time. Guam has had loss of signal. Next station to acquire will be Goldstone in about 15 minutes. Skylab II crew involved in an entry simulation. We'll repeat the information that CAP COM Dick Truly passed up to the crew. At 13:00 Greenwich mean time, about 3 minutes from now, Skylab II crew will have completed 22 days in orbit. They will have completed 317 revolutions of the Earth and have traveled 7,846,000 nautical miles or 9,028,843.9 statute miles. And if they were receiving 12 cents per statute mile,

SL-II MC1074/2

Time: 07:42 CDT, 23:12:42 GMT
6/16/73

each would have earned \$1,083,461.30. At 12 hours 57 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-1075/1

Time: 08:09 CDT, 23:13:09 MT
6/16/73

PAO This is Skylab Control at 13 hours 10 minutes Greenwich mean time. Skylab coming up on the Goldstone station. This is the lunch period for the crew. All three crewmen having lunch at the same time today. We'll stand by for this pass over the United States.

CC Skylab Houston. We're AOS stateside for the next 10 minutes.

SC Roger.

CC And Skylab, uh, particularly for the CDR, if during this period we'd, you guys would be eating and you'd have the suits off and we've been talking about a couple of items on Entry Day, that we'd like to bounce off of you, Pete, and if you're doing something where you could listen to us, I'll talk to you about them.

CDR Go ahead. We are eating and we're out of our suits.

CC Okay. The first one we've been talking about, Pete, a little bit, is the business of the timeline between undocking and the SEP maneuver. Turns out that due to the two factors, one, primarily the slip in the launch day and secondarily our desire to get the television for the fly-around, that in order to obtain the separation - the relative positions between the two vehicles, that we described in that message to you yesterday or the day before, on the flyaround instead of doing a 360 degree inertial maneuver around the SWS, you're going to actually have to do about another quarter of a revolution. So, what we're considering is adding about 10 more minutes between undocking and the SEP maneuver to give you a little more time there and that still leaves, we think, plenty of time. I think the correct number is about 34 minutes or so between the SEP and the shaping maneuver. What do you think about that?

CDR Okay. I never did quite understand why we wanted the workshop between us and the Earth, and nothing.

CC Yeah, let me, let me try to describe Pete, in words of what the relative attitudes of the two vehicles will be at the time of the SEP burn. Essentially, when you get in position for the SEP burn, and the reason that it's changed is cause of the recontact problem, you're going to be looking at the sunside of the SWS, and you're going to be in the SWS X-Z plane and essentially on the plus-Z axis of the SWS. Now, as you look at it, you're going to be pretty much looking at the Earth's horizon. The reason for this is that the beta angle is about 70 degrees. So, when you actually do the minus-X SEP maneuver, that's what the SWS will look like to you. Over.

CDR Okay.

SL-11 MC1076/1

Time: 08:16 CDT, 23:13:16 GMT

6/16/73

CC We wouldn't have to change them except to give you a time hack occasionally, if you needed one from there to the rest of the mission.

SC Okay.

CC Okay, those are the only two things we wanted to mention to you, I think. And we're standing by stateside. We've got another 11 minutes.

SC Okay.

CC Skylab, Houston. One more minor point on the times that we were just talking about. One thing that I failed to mention is that we have not coordinated this idea of watch times with the deactivation team which is not on duty here. We will get with Neil and do that before we formerly institute this procedure. For your information, if we do go to the watch time I was suggesting, the difference would be 4 hours. But that wouldn't make any difference to you since you were operating on the watches. But we've essentially set your watches ahead or changed your watches by 4 hours at the start of day 28. Also on a different subject of the PET on day 29, which really doesn't have anything to do with the change and the idea about the watch times. Because the undocking time nominally was 15 hours and 43 minutes in the nominal mission PET, and it is now going to be about 15 hours and 33 minutes. There will be about a 10-minute difference in the times that are in your deactivation checklist, all prior to undocking. And then after undocking, of course, all the PETs are good.
Out.

SC I'm glad you said "Out" instead of "Over".

CC (Laughter) Roger.

SC The way I see it, we'll have it deactivated some time on day 28, and we'll be down some time on day 29.

CC Roger that, Pete.

CC Skylab, Houston. We're 1 minute from LOS; Vanguard at 17:45.

SC Roger, Dick. And the PLT gets all those housekeeping things done.

CC Roger.

SC Still there, Houston?

CC Affirmative for about 10 or 15 seconds.

SC Okay, to fix our water heater problem in the head, we changed out the valve. That's the only spare on board. We're bringing it back. We're also strongly recommending that Bean's bunch bring at least one more replacement with it.

CC Roger, Paul. And this is one time that we did read the tapes, and we've already been talking about that this morning. See you at - -

SC (Garble). You rascal.

SL-IX MC1076/2

Time: 08:16 CDT, 23:13:16 CMT

6/16/73

PAO This is Skylab Control at 13 hours 28 minutes Greenwich mean time. The Merritt Island, Florida, Tracking Station has had loss of signal, and the Vanguard Tracking Ship off the east coast of South America will acquire in about 8-1/2 minutes. Not too much conversation during this pass over the United States. Crew is having lunch. That lunch period will continue for a few minutes yet. Then they will go back to the entry simulations. The Science Pilot, Joe Kerwin, will delay returning to the entry SIMs for about 10 or 15 minutes, while he works with the ED31 experiment. That's the student experiment on bacteria and spores. And there'll be several more hours of entry simulations for all three crewmen, followed by an ATM run by the commander and M092 and M171 experiments with Joe Kerwin as the subject and Paul Weitz as the observer. That's the lower body negative pressure and the metabolic activity experiments. Later in the evening Joe Kerwin has an Apollo telescope mount run also. Total amount of Apollo telescope mount operations scheduled today, 1 hour 58 minutes. We're 6-1/2 minutes away from Vanguard. We will come back up just prior to acquisition there. At 13 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

No audio on TV tour

SL-II MC1077/1

Time: 08:36 CDT, 23:13:36 GMT

6/16/73

PAO This is Skylab Control, at 13 hours
36 minutes Greenwich mean time. We're standing by for
acquisition at the Vanguard.

CC Skylab, Houston. AOS at Vanguard for
4 minutes.

SC Hello, hello, who was that?

CC Houston, Texas calling.

SC Oh, roger, it's you.

SC We've been having a lot of crank calls
up here lately.

CC Roger.

CC Flight CAP COM, do you want me to - -

SC There was another one.

CC My circadian rhythm isn't cranked up to speed yet,
that's the problem. Hang on.

PLT I don't blame you. Hey, how are you coming
on the answers to a couple of questions? First one being,
what's the story on our (garble) pressure to the regulator;
and the next one was , I don't know if you guys even know
about it, the evening team last night took it on the TCS,
the Thermal Control System logic breaker.

CC Paul, - - Stand by 1.

PLT Hey, if nobody there is familiar with it,
Dick, just let it go and I'll get it from the next team
when I get a hold of them. You know just - they were going
to dig into the schematics for something I need.

CC Roger, that. We'll take a look at it and
see if we got an answer for you.

CC Skylab, Houston. We got about a minute
and a half left in this pass. I've got a - we got a problem
that I'd like to speak to the SPT about. We dumped the
television from your TV tour that you did last evening, and
we did not receive any voice on channel B. And we're wondering
what configuration you were in, and we wanted to make sure
that we got to talk about it before Pete did his tour this
evening. Go ahead.

SPT Okay. I was on a lightweight headset, and
umbilical connected to the speaker intercom box in the experiment
compartment which was on channel B. And I was on intercom
press-to-talk to verify the hot mike, and that's all I did.

CC Skylab, Houston. Have you been - have you
used that intercom box since then, since I can't tell where
you're talking from now?

CDR (garble) on the VTR, right? We didn't
have to have it on RECORD or anything.

CC Stand by.

SL-11 MC1077/2

Time: 08:36 CDT, 23:13:36 GMT
6/16/73

SC Is that the voice going to video tape?
CC Skylab, Houston. The voice has to go
on channel B, so you do need to select the voice record
switch. We're going AOS here at Vanguard. We're going to
see you a long pass later. Goldstone at 18:56.

SC Okay, while you're gone you can be cooking
up an answer to why (static).

PAO This is Skylab Control, with 13 hours
45 minutes Greenwich mean time. Vanguard has loss of signal.
There's a long LOS here, about 1 hour and 2 minutes. The
next station to acquire will be Goldstone. At 13 hours
45 minutes, this is Skylab Control.

END OF TAPE

Discussion on VTR

SL-II MC-1078/1
Time: 09:44 CDT, 23:14:44 GMT
6/16/73

PAO This is Skylab Control at 14 hours 44 minutes Greenwich mean time. Skylab approaching acquisition at the Goldstone Tracking Station. In about 25 minutes Skylab will be beginning the revolution in which simulated entry and landing will take place, the crew having already performed the simulated undocking separation from the Saturn workshop and the first burn in a two step maneuver to deorbit the command and service modules. The shaping burn, first of two service propulsion system burns, was simulated over the Carnarvon Station during the last revolution. That lowered perigee to 90 miles. The second service propulsion system burn the deorbit maneuver proper, will be performed out of range of any tracking system. When Skylab is acquired at Goldstone, shortly after acquisition they will simulate the activation of the command module reaction control system. We'll then go through the Texas Station and Vanguard, and the simulated deorbit burn will be performed between the Vanguard Station and the Hawaii Tracking Station. It's been more than a month since the crew and the flight controllers have performed an entry simulation. This is the first inflight simulation for the manned space flight program. It was felt, because of the duration of the mission and the criticality of the reentry phase of this flight, that both the crew and the flight controllers would profit from a simulation, and that is what has occupied the major portion of the crew's day today. We'll stand by now for acquisition through Goldstone.

CC Skylab, Houston. We're AOS Goldstone for 13 minutes. I've got some flare information for you and also a couple of comments on the VTR.

SC Okay. We're watching the flare; go ahead with the comments.

CC Okay, good. On the flare first, Pete, you might let us know what you're doing. It - actually it started when you guys were in the dark. It started at 14:19. It was originally classified subnormal, then reclassified 1-Bravo, and then again to 2, with X-rays coming out of it. And our information shows it's presently declining. Over.

SC Roger. Our information shows the same. We wandered down to the ATM panel at sunrise to see what was going on. We noticed that you guys were conducting unattended OPS and that there was a flare going on which was visible in XUV and X-ray - not in H-alpha because of where you have the pointing. The PNEC count was almost 700 at that time, with an image intensity count (garble) about 100. Both declining and both have continued to decline, and I have not pointed at the flare or interrupted your unattended programs. We don't have

SL-II MC-1078/2

Time: 09:44 CDT, 23:14:44 GMT
6/16/73

ground rules for this sort of thing. What would you like for me to do?

CC

Stand by.

SC

Meanwhile, Houston, while you're checking that, we found the problem with the VIR. The B CHANNEL INPUT switch was OFF. It wouldn't again be sure which position it (garble) be in. I guess ICOM PTT or PTT will work, won't it?

CC

Skylab, Houston. That's affirmative; those positions will work.

SC

Okay. You do not have to have the RECORD switch ON, correct?

CC

That's correct. We gave you an incorrect answer. You do have to have the cables configured properly, but you do not have to have the VOICE RECORD switch on SIAs hit.

SC

Okay. Well, unfortunately, we verified that he was talking on B channel, but not at that block. And we're going to have to put it in the checklist (garble).

END OF TAPE

NYR CONF 1

SL-11 MC-1079/1

Time: 09:50 CDT, 23:14:50 GMT

6/16/73

SC Okay. Well, unfortunately, we verified that he was talking on B channel, but not at that block. And we're going to have to put it in the checklist as something that went down the crack, I guess.

CC Roger that, Pete.

CC And, Skylab; Houston. We think the best thing now - We think you did the right thing, and - when you came by. And we'd like to just to go ahead and get this one in unattended OPS. And you can just go ahead and watch it as you like.

PLT Okay. I think for the next crew that it's one of a couple categories that they might be thinking about. And one is this - When you come around a corner and you see a flare in progress. The other is like what happened last night - When you are doing some other work and you see a small flare, which you don't want to do a full flare program on, but maybe you can snatch a little something.

CC Roger. That's a good suggestion. And it's obvious that we do have a couple of categories of possibilities here that we can talk with those guys about and come to some new ground rules.

PLT Roger.

CC Skylab, Houston. We're going to uplink some rate gyro drift compensations, and we need for you to stay off the DAS for a couple of seconds. I'll let you know when we're through.

SC I've got it.

CC Thank you.

CC Skylab, Houston. Not to beat this VTR problem to death, but we want to make sure of what you said, Pete, and I'm not sure I understand it completely. As I understand it, the - on one of the SIAs, the channel B selector next to this channel B CCU input connector was in OFF, and I'm wondering whether or not that was - whether that was the SIA that Joe was plugged into or the SIA that the VTR cable was plugged into? Over.

CDR Don't read me, Houston?

CC Affirmative.

CDR Bad VOX 116. The switch was off on VOX 116.

CC Okay. Real fine. Now we understand it, Pete. Thank you very much.

CDR Okay. That's not in the checklist anywhere. It's like this panel 132 switch business. We've got bitten on that one too many times, too. We need to put that in every place in the TV checklist that if you're going to have voice, you're going to have to check VOX 116. In every (garble) you got to check VOX 132.

SL-II MC-1079/2

Time: 09:50 CDT, 23:14:50 GMT
6/16/73

CC Roger, Pete. We probably do need to put some verifies. The only place that we can find where that channel B selector switch is to be put on channel 1 - I mean panel 116 to PTT is in one place in the activation when you first - activate the VTR. But after that, we can't find where you ever reverify that. And apparently, in some kind of operation between then and now, it got put to OFF, and then without a VERIFY. We missed it; so we'll correct that in the TV procedures.

CDR Yeah, I think it got turned off way back when we were originally going to use B channel for EREP and we were going to disconnect that. And we got half way through doing that, and we thought you guys decided to go A RECORD and A for BROADCAST and VOX on EREP, and the switch never got put back in the proper configuration. And what did you say it was? ICOM, PTT?

CC It's PTT, Pete.

CDR Okay.

CDR Well, I'm sorry you lost that, because Joe gave a sterling performance.

CC No problem. It just appears that we - just one little thing in the checklist that (garble) will correct it. No problem.

CC Skylab, Houston. On the subject of the entry SIM today, the next - it turns out the way the stations go that the - following this Texas LOS, the last interface we have with you - and is down at the Vanguard. And our guys have gotten a good bit out of it today. What we plan to do, if it sounds okay to you, is we're probably going to release all the controllers, except for the trajectory people that are running some of their targeting. And depending on whether or not you feel like, by the Vanguard, that you'll have gotten what you wanted to get out of the day, we might have some suggestions for you in the way of experiment operations or whatever between the Vanguard pass that's going to come up in about, oh, another 15 or 20 minutes and the end of the point in today's time line, where it's scheduled for ENTRY SIM. It's your call.

CDR Good. Go ahead. We've gotten all we can gather.

CC Okay. We'll do some thinking between here and Vanguard and maybe have a couple of suggestions for you. We're about 1 minute from LOS. We'll see you at Vanguard at 19:21. And we're going to dump the data recorder there.

END OF TAPE

SL-11 MC1080/1
Time: 10:00 CDT, 23:15:00 GMT
6/16/73

CC About 1 minute from LOS. We'll see you
at Vanguard at 19:21 and we're going to dump the data recorder
there.

SC

Roger.

PAO

This is Skylab Control, 15 hours 1 minute
Greenwich mean time. The Texas tracking station at
Corpus Cristi has had loss of signal with Skylab. Tracking
ship Vanguard will acquire in 12 minutes. The Apollo
telescope mount controller reports that the ATM telescopes
were not pointed at the flare region while in unattended
operations during the - during the flare that started at
14:19 Greenwich mean time. Telescopes were not pointed at
the flare. Also considerable discussion during this pass
about the proper configuration for the video tape recorder
in order to record audio along with the video. A tour of
the workshop last night produced very excellent video but
no audio was with it when it was dumped today. I believe
they have the configuration worked out now so that problem
will not reoccur. And a decision will be made at the Vanguard
whether to continue this entry simulation. It may be ended
a little early without going completely through entry and
landing. Appears that both the crew and the flight controllers
here in the Mission Control Center have gotten most of the
information they were looking for and needed in this
simulation. We'll come back up just prior to acquisition
at the Vanguard. At 15 hours 3 minutes Greenwich mean time,
this is Skylab Control.

END OF TAPE

SL-II MC-1081/1

Time: 10:13 CDT, 23:15:13 GMT
6/16/73

PAO Skylab Control at 15 hours 13 minutes
5 seconds Greenwich mean time. At the present time we are
coming up on acquisition of signal at Vanguard tracking
station on rev 476 just crossing into 477. We expect to
hear from the crew momentarily. That last ATM was a 1 bright -

CC Skylab, Houston. I have a few items
I'd like to read up to you if you'd like to jot them down,
and then you can decide for yourselves which one you'd like
to do, if any, and just let us know.

SC Go.

CC Okay. One, is to continue M552. In the
event you get the completion on M552, we want you to go a-
head and terminate, including the battery discharge and that
termination is per page 4-5 of the MDA Experiment Checklist.
Second item, is HK60 Bravo, 6, 0, Bravo, which is condensate
holding tank dump. Third item is TV5. Fourth item is the
TV tour. And comment on those two items - those - you can do
only 1 of the 2 of them and we'll leave it up to you as to
which one you've got to clean VTR. We are looking at 2 and 3
EREP items that we might be able to pass up to you before
the end of this pass, but right now I don't have enough
information on them. Over.

PLT Okay. We got it, Dick.

CC Okay.

PLT And we'll let you know what we're doing.

CC Roger.

PLT We're doing 552, right now, Dick. The
third (garble) was in the cool out. We'll do 60 Bravo and
we plan to do the TV tour instead of TV 5 today.

CC Okay. Sounds real good.

PLT And we will do M552 terminate before the
day is over.

CC Okay, real good and I've got one request
here. We need the XUV and H-ALPHA 2 DOORS to CLOSE.

PLT Okay, they are.

CC Roger.

PLT Hey, Houston. Is there an earlier time
we could do the SPT's M092?

CC Stand by 1 on that one.

CC Skylab, Houston. We're 1 minute from
LOS at Vanuad. I'm going back to GMT times on the LOS calls.
We're going to see you at Hawaii at 16:22.

SC Okay.

PAO Skylab Control, 15 hours 21 minutes
43 seconds Greenwich mean time. We have lost signal at
Vanguard. I apologize for the interruption at the beginning

SL-II MC-1081/2

Time: 10:13 CDT, 23:15:13 GMT

6/16/73

of this transmission. We thought we heard air-to-ground before we had an indication of acquisition of signal here. I believe it was the spacecraft communicator talking on his loop. We do have the report on the ATM solar flare that was spotted. The ATM was not pointed at that solar flare. It had been pointed at the limb of the sun during the darkness pass, and when they came back into the light the solar flare was already receding. So, they may have - part of the activity of the solar flare took place while the spacecraft was moving around the dark side of the Earth, blocked by the Earth from the view of the Sun. It was reported from ground stations that was a 1 bright class 2 solar flare, that's 1 brightest, (garble) the same amount of optical brightness and area that we saw in the solar flare yesterday about the same time. It was a class 2, which means that its total X-ray high radiation - high-energy radiation was substantially below that of yesterday's, which was moderate. Class 2 is the lowest class in the C class of magnetic (garble) X-ray radiation. And the one we saw yesterday was an M4, which is in the moderate class. So, they did not use the ATM during that pass. It was an unattended operation. It was pointed at the limb of the sun. They didn't feel it was worth while to chase the flare, which had already begun to recede. We will not have acquisition now, for nearly an hour, 59 minutes and 23 seconds from now. And then we will pick up the transmission again at the Hawaiian tracking station at approximately 20 minutes after the hour. This is 23 minutes 24 seconds after the hour, Skylab Control signing off for approximately 1 hour.

END OF TAPE

SL-11 MC-1082/1

Time: 11:21 CDT, 23:16:21 GMT
6/16/73

PAO Skylab Control at 16 hours 21 minutes and 13 seconds Greenwich mean time. Present time, we're approaching acquisition of signal at the Hawaiian Tracking Station. We expect to hear from them in the next minute or so, and we'll stay live for air-to-ground.

PAO

Skylab Control; we have data.

SC

Houston, Skylab.

CC

Skylab, Houston. We're AOS Hawaii. Go

ahead.

SC Roger. We've been talking about that TV. Is there any chance - It seems to me last night the experiment 1 and 2 recorders were running. Is there any chance this waste is on experiment 1, that you got back last night while S073 was running?

CC

Stand by 1.

SC

And, Dick, when you got a minute to - shoot the balony about the condensate holding tank, I'd like to bend your ear for a minute.

CC

Okay, why don't you go ahead. EGIL is listening, and we'll get an answer on the tape recorders here in just a second.

SC

Okay. It was my understanding the condensate holding tank was a plain old ordinary everyday vanilla water tank, that had a few extra fittings put on it. We went up to measure where the bellows was, and that thing is completely out of configuration, which is one way of saying it took us one whale of a long time to find the little ferro magnetic strip in the stainless steel bellows, which I have now marked similar to the other tank for the follow-on crews. And for their information, it's down on the bottom side of the tank that's pretty much up against the wall.

CC

Okay. I'll make sure they get that information. Anything else on the condensate holding tank dump?

SC

No, we'll measure, if you care where the bellows was. I assume you'd like to know.

CC

Just can't hardly wait.

SC

Oh, also, we have had a PPCO2 HIGH on "A" MOL SIEVE, which is the only one we're monitoring anymore. The gage indication reads 2. Now I think we've got two detectors - one for the gage and one for IM and - caution and warning, or some such mix. How about checking them, will you please?

CC

Roger.

SL-II MC1082/2

Time: 11:21 CDT, 23:16:21 GMT
6/16/73

CC Skylab, Houston. We're coming close to LOS. We're going to see you at Vanguard at 16:50. We're reading 2 on PPCO2, and we're checking on the instrumentation now.

PAO Skylab Control; 27 minutes and 21 seconds after 16 hours, Greenwich mean time. We still aren't receiving tracking data from the Hawaiian Tracking Station, although the spacecraft communicator is now engaged in a discussion with the flight director, and it does not appear that he'll attempt to contact the spacecraft again. We'd like to explain at that time they were getting a reading of 2 on the partial pressure of carbon dioxide in the spacecraft. PPCO2 is partial pressure carbon dioxide. The question the crew had was whether this was a satisfactory reading and whether it was accurate. Flight controllers here, the EGIL specifically, are now checking to find out whether or not the instrumentation reading that they have is from the same sensor that is used for the spacecraft readout. That is to say that there may be separate instrumentation that gives us a telemetry signal that's separate from the one that's on the spacecraft. So that right now they don't have an answer to that. They'll check that out before we reach the Vanguard Station, approximately 21 minutes and 53 seconds from now. And at that time we should get some sort of an answer on whether or not that molecular sieve is reading too high a partial pressure of carbon dioxide. That would indicate too much carbon dioxide in the atmosphere. But it doesn't appear to be a problem right now. It's nothing - They are looking into it to find out why the reading is as high as that, and we'll get some sort of information on that in the next pass. This is Skylab Control at 28 minutes 45 seconds after the hour.

END OF TAPE

SL-II MC-1083/1

Time: 11:49 CDT, 23:16:49 GMT

6/16/73

PAO Skylab Control, at 16 hours 49 minutes Greenwich mean time. At the present time we're expecting acquisition of signal shortly at the Vanguard tracking station. And we will hear some discussion of the partial pressure carbon dioxide reading they got off of one of the mole sieves which is responsible for reducing the carbon dioxide content in the air. And we should hear some discussion right during the pass over Vanguard. This is Skylab Control staying live for air-to-ground at 49 minutes and 27 seconds after the hour.

CC Skylab, Houston. We're AOS at Vanguard. We got you for 10 minutes.

SC Roger.

CC Let's see guys, sorry we went LOS there, well it was a very low angle pass and I didn't get to give you a LOS call that I'm sure you got. On the PPCO2 high we're wondering is the mol sieve B PPCO2 caution and warning inhibited?

CDR Yes, it is.

CC Roger. Okay. Next question is, the PPCO2 high light still on, and if the light is out, if the light's on inhibit the caution and warning for mol sieve A. If the light's - is out, turns out this may be associated with mol sieve A bed cycling, which allows the outlet sensor to sense inlet gas for approximately 1 minute.

CDR Okay, we'll take a look, we've got them both inhibited right now.

CDR Meanwhile Dick, the condensate tank bellows was 15 and 3 quarters inches at the start of dump.

CC Roger. 15 and 3/4 inches at the start of dump. One thing that we wanted to suggest was that you make sure, since this is the first time we have dumped a holding tank, want to make sure that, periodically, be sure and check the waste processor exhaust pressure to be less than 0.08. It is good now, we're looking at it on TM. And I have - we have searched on, Pete, on experiment 12 and the data tape recorders and unfortunately we didn't make out their - we didn't get the voice on any of those. And I have an answer here on the TCS logic circuit breaker for the PLT.

SC Go ahead.

CC Okay. We think that the experience that you had with the TCS logic circuit breakers in the heat exchanger fans was normal, if you were in the following configuration: panel 17 the 4 TCS heat exchanger fan switches to AUTO, and panel 614, TCS logic circuit breakers, two of them, closed, and also if the OWS temp was at least 4 degrees

SL-11 MC-1083/2

Time: 11:49 CDT, 23:16:49 GMT
6/16/73

greater than the temp selection that you have made on the low rotary knob there, which we have assumed that that was the case. The fans on signal from the TCS auto control module sets a latching relay, so opening the logic circuit breakers does not have an effect on the heat exchanger fans. A reset to the relay must be sent either by the auto control module or the OWS heat - heat exchanger fan switch to off on panel 390.

SPT Well if you're happy with that, I guess
I am.

SPT Houston, SPT.
CC Roger. We're happy, Paul, and go ahead,

SPT.

SPT Okay. The CO2 light is out. I have
reenabled caution and warning. The gage was reading 2.7 a
couple minutes ago and now it's back down to 2. So it may be
spiking with the vent cycles.

CC Roger, SPT. And that concurs with what
we saw. We saw as high as 3.6 on the last cycle there.

SPT Okay. Both our experiment tape re-
corders are running now apparently for S073. Is it okay to
terminate them and go to M092?

CC Skylab, we're dumping the experiment 2
recorder now, so we'll get back to you prior to this LOS and
let you know about configuration of those recorders.

SPT Thank you.

CDR Say, Dick, you got to have the procedures
for dumping and not letting the tank get above 0.08 put in the
procedures, cause it's not in any of our procedures, we've
been watching it.

CC Roger. We copy and we'll make sure that
gets in there.

CC And CDR, Houston. There's a teleprinter
message in the teleprinter for you, I think.

CDR Okay.

CC Skylab, Houston. Be advised the ASCO is
going to the command a NAV update here at Vanguard and we'd
like to make sure you stay off the DAS, please.

END OF TAPE

SL-II MC1084/1

Time: 11:55 CDT, 23:16:55 GMT

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CC Skylab, Houston. Be advised the ASCO is going to command a NAV update here at Vanguard, and we'd like to make sure you stay off the DAS, please.

SC Okay.

CC Skylab, Houston. On the tape recorders, after we finish our dumping here at Vanguard, you will be able to take them back and do M092. Just a reminder though, on the CDR details pad, that 1901 - there's a little step in there to reconfigure the recorders after M092 for S073. Also, we're about a minute and 20 seconds from LOS. We're going to see you at Van - correction, at Hawaii at 17:58.

SC Okay, but in the meantime you don't want 73 to run, right?

CC Roger. Just let it run until you need it and then take the recorders for M092. And then after you get through, reconfigure for S073.

SC Okay.

CC Roger, and we're through - we have finished our dumping here at Vanguard.

CC Skylab, Houston. We had to terminate the NAV update commanding due to a dropout in data. You can have the DAS back.

SC Is it already in or not?

CC Negative, CDR, it's not in. We'll get it up later.

PAO Skylab Control at 17 hours 1 minute and 10 seconds Greenwich mean time. We have lost communications with the spacecraft Vangu - over the Vanguard Tracking Ship. During that last pass there was very bad data; so they were - we're trying to make some maneuvers here from the ground, but they were not able to get those through because of a dropout in data. That means that they - the data coming back on telemetry circuits was not accurate enough and there was insufficient control over the spacecraft from the ground to properly change the attitude; so they will have to do that a little bit later. They've turned that back over to the crew. On that partial pressure of carbon dioxide, they determined that the reading they were getting was due to a normal function of the molecular sieve. The molecular sieve has an electro-pneumatic switching unit which controls the gas selector valves, and it shifts from one - from one of the sieve areas to another sieve area to cycle the canisters that are used for adsorbing carbon dioxide from the air. Now while it's doing that cycling, apparently it pushes some of the normal inlet air (that's air that's in the spacecraft) into the outlet area, and that would - Normally what you'd have is you'd have

SL-II MC1084/2

Time: 11:55 CDT, 23:16:55 GMT
6/16/73

higher partial pressure of carbon dioxide coming in the inlet than would be going out the outlet, after it had been scrubbed by the molecular sieve. But when the air is - when the cycling takes place, it does for a short period of time allow that output of normal input air to go by the output sensor, and it was sensing higher pressures of carbon dioxide than would normally be the case. The reason this hasn't happened earlier in the mission is that generally the partial pressures in the - of - I'm sorry, the total cabin pressure, total atmospheric pressure in the cabin, has been lower than it is right now. We're reading some pressures now of about 5.2 pounds per square inch. Normal readings are about 5 pounds per square inch or 4.9. The reason for this is that the last day or so, they have been bleeding one of the cryogenic oxygen tanks - a normal procedure, something they would do a number of - number of times during the mission. This has increased the total pressure in the cabin, and that seems to be enough to set off a CAUTION AND WARNING light. No problem at all actually involved: it's just a matter of the sensor being a little bit more sensitive than they require. They do have it activated again. They set up caution and warning, but it may be necessary at these high pressures to - to set it up for not - for not activating everytime there is a cycle. It goes through a cycle approximately once every 15 minutes. They did not have a chance to tell the crew that there are a couple of more activities on the Sun right now. That's nothing the crew would be normally expected to look at, but just for information, there is a prominence erupting at - Prominence 85 in is the process of erupting, and they also have some additional activity in active region 37, where we had a solar flare a few hours ago. But that information was not transmitted to the crew, because the crew is not expected to take any action on it. This is Skylab Control at 4 minutes and 22 seconds after the hour.

END OF TAPE

SL-11 MC-1085/1

Time: 12:19 CDT, 23:17:19 GMT

6/16/73

PAO This is Skylab Control at 17 hours 19 minutes Greenwich mean time. At the present time, the spacecraft is traveling over the - Madagascar, headed north. And we are expecting a press conference - a reshooting of a tour of the spacecraft that was made last night by the astronauts. We will have Rusty Schweickart available for a discussion of this in the small briefing room at building 1, beginning at approximately 12:30. That will be a playback of the tour of the crew quarters area of the spacecraft that was made last night, with Rusty Schweickart available for discussing the television at 30 minutes after the hour. It is presently 19 minutes and 52 seconds after the hour, Skylab Control.

END OF TAPE

SL-II MC1086/1

Time: 13:10 CDT, 23:12:10 GMT

6/16/73

PAO Skylab Control, at 18 hours 10 minutes 43 seconds Greenwich mean time. At this time we'll play back the air-to-ground from the Hawaiian tracking station that we've just passed. This was recorded over the last 15 minutes because we had something on the release line. We will now play back that air-to-ground from Hawaii.

CC Skylab, Houston. AOS Hawaii for 9 minutes.
CDR Roger, Houston. We got a (garble) DELTA-P on this 16 condensate 6. And after I turned on the heater and I've gone to vacuum, which hasn't done any good, it (garble) dumping except all that - Joe dumped it - it had about two cups of water in it when he started and now it's completely empty, so don't ask me where the water went to and don't ask me where the vacuum went to. I don't have any idea. So what would you like us to do about it while we're dumping the big tank?

CC We'll think about it, Pete, stand by.

CDR Okay.

CC And Skylab, Houston, be advised we're dumping the data recorder at this site.

SC Okay.

SC Skylab, Houston. A couple of things while we're waiting on an answer on the condensate tank; one is we see you operating a building block 5 and we'd like to - due a film in S054 - we would like to omit S054. So when you get to the end of the sequence that the 54 is in now, request you to terminate. Also we're going to attempt again on the NAV update. So if you can give us the DAS for a couple of minutes we'll get that command in.

CDR Okay, the pad you sent me said to run 54 on 5-Alpha but not on 5-Bravo and Charlie.

CC Stand by 1.

CDR Oh, sorry, it's up at the top. I didn't see it up at the top. Got it down at the bottom (garble) (garble). Okay, it's my mistake.

CC Roger.

CC CDR, Houston. We've got the NAV update. It's up good this time and you can have the DAS back.

CDR Thank you.

CC STP, Houston. I'm not sure where you are in the sequence, but you might listen to this one, a little flight plan comment on your flight plan this afternoon. On the ED31, we'd like to delete the ED31 photo session that you've got scheduled today based on your previous comments about the rate of growth and replace with the visual observation and appropriate voice comments as you see fit on B channel, and we will reschedule the final photo session probably a

SL-II MC1086/2

Time: 13:10 CDT, 23:18:10 GMT
6/16/73

couple of days from now. And this is day 168 or 9, and this is due to the apparent slow bacteria growth. Out.

CC Skylab, Houston. We're about 30 seconds from LOS. We're going to see you at Vanguard at 18:29. And we think present configuration is - is okay for now on the condensate dump system, so press on with that procedure wherever you are in it and we'll get back to you on that one at Vanguard.

CDR

Okay.

PAO

Skylab Control, 18 hours 13 minutes 4 seconds Greenwich mean time. We appear to have lost some of the air-to-ground there. The crew indicated at the very beginning in that pass that they were having some small problem with the condensate tank dump that is releasing the water from the condensate tank. One part of it was - had about two cups of water in it and they couldn't figure out where the water had gone although it didn't seem to be going out the proper way. After checking it out here they decided that there really wasn't any problem and they told them to go on with the procedure and to complete it. We expect to hear from the crew again in approximately 15 minutes and 15 seconds at the Vanguard tracking ship. And until that time should be no major problems. One thing we made more convenient now is we have a more complete report on the flare that was missed earlier this morning by the crew. It turns out that the peak that was a 2 bright rather than a 1 bright flare, 2 bright flare with an area of approximately 7 square degrees. That's roughly twice the size of the - an area of the optical brightness that we saw on the flare that was caught yesterday by the crew - was in active region 31. The reason it wasn't caught by the crew today is that the crew is on the dark side of the Earth. It was out of sight of the Sun at the time it was most active. The flare began at 14:18 Greenwich mean time, or at 9:18 Central daylight time. It reached it's maximum at 9:25. At it's maximum it - at it's maximum it was a 2 bright M3. That is to say it had a approximate area of 7 square degrees and it was at bright optical flare. It's X-radiation was M3, which means that it gave off 300ths of an erg per centimeter squared per second in X-radiation. That's almost as high as the one yesterday, but not quite in its X-radiation. The X-radiation going yesterday was four-hundredths of an erg per centimeter squared per second. So this is a slightly smaller magnetic power but larger in optical area. This appeared in visual light to be a larger flare than the one we say yesterday. It was however not caught by the ATM

SL-II MC1086/3
Time 13:10 CDT, 23:18:10 GMT
6/16/73

experiment because it was out of sight until the flare began
subsiding. We expect to hear from the crew again at 13 minutes
and 24 seconds. This is Skylab Control.

END OF TAPE

BM TANK HAS LOST PRESSURE

SL-II MC-1087/1

Time: 13:41 CDT, 23:18:41 GMT
6/16/73

PAO Skylab Control at 18 hours 41 minutes
44 seconds Greenwich mean time. We had no signal - no signal
of - acquisition of signal at Vanguard and as a result we did
take it on the tape recorders and we'll now play back approxi-
mately 4 minutes of air-to-ground that was picked up over the
Vanguard station. Here is the air-to-ground from Vanguard.

CC Data tape recorder again, here at Van-
guard and I got a couple words for the CDR on the condensate
tank.

CDR Be right with you.

CC Okay. No problem. We've got a 8 minute
pass, Pete.

CDR Go ahead.

CC Okay, Pete. We're a little bit confused
as to what the configuration is, but since you do an ATM
and the other guys are doing biomed, we figure if we can
stabilize the situation for the next hour or so, we're going
to have an hour LOS and then by that time, you should have
a little more time to talk and you can lead us through the
procedures and tell us exactly at what steps you had the
problem. For now, as we understand the configuration, you
got the holding tank disconnected from the little tank and
the holding tank is doing its thing, dumping. The little
tank has lost vacuum. So what we suggest is going to the
systems checklist page 2-40, and under the procedure listed
for airlock module condensate tank dump step 3, it's 6 or 8
steps there that hopefully will reacheive the vacuum on the -
on the condensate - airlock module condensate tank. You can
go ahead and do that procedure and get back to your ATM work
and we can talk about it again next pass. Over.

CDR Okay. You got it right.

CC Okay. Real good. Why don't we do that
then and we'll just talk to you about it later.

CDR Okay.

PLT The big question is, Dick, what happened
to the water that was in the condensate tank, when all I'm
supposed to be doing is hooking water into it?

CC Roger. That's the big question and we
haven't figured that out yet.

PLT Okay.

SC (garble)

CC PLT, Houston. I didn't copy your message.

SC (garble)

CC CDR, Houston. Sorry, I guess our ears
are bad, but the comm is a little bit ratty here on the down
link and I still did not copy.

SL-11 MC-1087/2

Time: 13:41 CDT, 23:18:41 GMT
6/16/73

CDR Okay. I've been running the secondary heater and we have this intermittent problem with that. Now I show no temperature at all on secondary heaters - been running for 30 minutes. You want me to go ahead and dump it or do you want me to do it on primary heater until I get some temp reading?

CC That's affirmative. We'd like you to switch to the primary heater.

CDR Okay.

CC Skylab, Houston. We're about 15 seconds from LOS. We're going to see you at Hawaii at 19:36.

SC Roger.

PAO Skylab Control, that concludes the air-to-ground recorded over the Vanguard tracking station. We will not have another acquisition of signal for approximately 50 minutes and a half. At that time we will receive signal from Hawaiian, from the Hawaiian tracking station. We expect a change-of-shift briefing at the request of newsmen for approximately 45 minutes after the next hour that's at 2:45, quarter to 3, we should have a change-of-shift briefing with Charles Lewis, the off-going Flight Director. The on-coming Flight Director is Donald Puddy. There is presently a handover taking place here in mission control, but we do expect a change-of-shift briefing at 2:45. This is Skylab Control at 46 minutes and 33 seconds after the hour.

END OF TAPE

SL-II MC108A/1

Time: 14:35 CDT, 23:19:35 GMT
6/16/73

PAO Skylab Control; 19 hours 35 minutes. We have acquisition of signal at Hawaii. We'll remain live for air to ground.

CC

Skylab, Houston. AOS 6 minutes.

SC

Roger, Bill. Where are we?

CC

for you here. Did you disconnect from the holding tank or at panel 393 on the hose?

SC

Per the checklist at (garble).

CC

Copy.

SC

twice. It just won't hold a vacuum is all, Bill. It didn't.

CC

Yes, we copy. We're thinking again now.

SC

Houston. I got another question for you

on that dump business.

CC

Go, PLT.

PLT

Okay, the holding tank is apparently empty. The stunt finder finds the bellows about 1 inch from the inlet side into the tank. The tank pressure during the last dump sequence - we had to keep fighting it, by the way, to keep from exceeding 0.09 in the waste tank, and we never knew about that pressure restriction until we got it (garble). Then we were cycling the dump valve off and on. The bellows is in the end. During the last sequence, the waste bag pressure never got above about 0.082. It is now dropping off to about - it's on its way to 0.075. However, in accordance with the checklist, once again we are waiting for a water dump pressure to come off the (garble) at over 2. It seems to me it should have by now. Have you got any good soothing (garble) words for us on that?

CC

PLT, we're working on him at the moment.

CC

Skylab, we're going LOS here in approxi-

mately 25 seconds. We would like for you to continue on page 2-37, step 5 SWS systems checklist. We'll see you again at Vanguard at 20:07.

SC

Okay.

PAO

Skylab Control at 19 hours 44 minutes and 04 seconds Greenwich mean time. We have lost signal at the Hawaiian Tracking Station. That final instruction given up by the spacecraft communicator was to follow step 5 in the SWS checklist. Now that's a Skylab workshop system checklist. And that step 5 is condensate holding tank dump terminate, which means that they believe that they have successfully dumped all of the water out of the condensate tank into the general waste tank. And since that is terminated, they instructed the crew to go on as if it were finished. The crew reported that the bladder had successfully gone to the opposite end of the tank, which

SL-II MC1088/2

Time: 14:35 CDT, 23:19:35 GMT
6/16/73

would indicate that there's no water left in it. So they believe that they have now solved whatever problem existed, and they are trying to look into why it gave them the readings it did give them. Off-going Flight Director Charles Lewis has just returned from a short meeting, and he should be on his way over to Mission Control in a few minutes - I'm sorry, over to building 1 in a few minutes, and this is Skylab Control at 45 minutes after the hour.

END OF TAPE

SL-II MC-1089/1

Time: 14:52 CDT, 23:19:52 GMT
6/16/73

PAO Skylab Control at 19 hours 52 minutes 28 seconds Greenwich mean time. Off-going Flight Director Charles Lewis has left Mission Control and is enroute to building 1 for a change-of-shift briefing that should begin in approximately 3 to 5 minutes. This is Skylab Control at 52 minutes 45 seconds after the hour.

END OF TAPE

SL-II MC1090/1

Time: 15:19 CDT, 23:20:19 GMT
6/16/73

PAO Skylab Control, at 20 hours 19 minutes
3 seconds Greenwich mean time. At this time we will rerun -
At this time we will rerun the Vanguard site. We did take
this on tape, and we'll play back the air-to-ground from
Vanguard. Immediately there following you will hear the
Ascension air-to-ground. This is a replay of Vanguard.

CC Skylab, Houston. AOS 10 minutes.

SPT Houston, SPT.

CC Go, SPT.

SPT Okay, the procedure for dumping the

holding tank requires the use of the minus-Z SAL vacuum
port - conduct the pressure from the gas side of the tank.
S073 is in that SAL, and my question is, can we go ahead
and dump the gas on that port or will that contaminate the
experiment?

CC Stand by, we'll try to get you an answer.

PLT Hey, Houston, for information, M552 has
been completed and the terminate pressure of the checklist
has been completed.

CC We copy.

PLT Houston?

CC Go, Skylab.

PLT Okay, we are - Pete is ready to do rod

extend. If there's any concern about getting through
that airlock we are willing for a branch which will be
explained later, to retract S073 completely, take it out
of the airlock, vent the condensate tank, and reinstall
S073 and go to a (garble) configuration on it.

CC Stand by half, we're looking hard at it.

PLT Okay.

CC PLT, Houston.

PLT Go ahead.

CC We would like for you to extend the 7 S073
rods with the trunnion angle zero and then dump. That's dump --

PLT Okay. All right, we got it. Thank you.

CC Skylab, Houston. We're going LOS. We will
have you again at Ascension at 20:22.

PLT Roger.

CC Skylab, Houston. AOS for 7 minutes.

CC - OS for 7 minutes.

SC Roger.

CC Skylab, it appears that you have leaks
at panel 393 and on the holding tank disconnects. That's
the quick disconnects.

PLT Well, then why has the DELTA-P on the

SL-II MC1090/2

Time: 15:19 CDT, 23:20:19 GMT
6/16/73

condensate tank stayed so good for the last 20 days or so?
We had it plugged in.

CC Paul, it's thought that they're only
leaking when they're disconnected. And we think the same
thing happened during the EVA when they were disconnected.
PLT Okay. That's a whole new set of QD's we
got leaking now. That is affirm.
CC

END OF TAPE

SL-II MC-1091/1

Time: 15:24 CDT, 23:20:24 GMT

6/16/73

CC Skylab, there isn't much in the way of news, but there's 2 or 3 items, if it doesn't interrupt anything you're doing.

PLT Go right ahead, we're listening, we can all hear it.

CC Now that I look at it, there's even less. You can get fish with your drinking water, it says, in Mexico. They had a heavy buildup of fish that burst the filter on the local water purification and they're coming out the taps.

SC Okay.

CC Now let's see if we can find something significant. Says Houston is still number 3 in the race, they're 4-1/2 games out.

SC The Cubs, the Cubs.

CC Yeah, that's what I'm looking at. They're doing pretty well, it looks like. Stand by.

CC Okay. The Cubs appear to be leading the race at 3-1/2 games. Gary Player - -

CC Say again?

SC Go ahead.

CC Gary Player is leading on the Oakmont course. The astronomy satellite for radio astronomy that was launched earlier has gone into orbit around the Moon, apparently operating normally. The other items have to do with the energy crisis and the EPA has laid on some rather strict requirements which Texas is going to contest. It would involve strict gasoline rationing and conversion of cars prior to 68 to post 68 standards. No new parking lots built, and an increase in mass transit.

SC Good.

CC And we're going LOS here in about 20 seconds. We'll have you - we'll have you again, at Vanguard at 21:44.

SC Okay. Thanks a lot.

CC Yeah, that medical conference of course, will be coming up on your next pass.

SC Roger.

PAO Skylab Control at 20 hours 30 minutes 53 seconds Greenwich mean time. We have lost signal now at the Ascension tracking station. We heard the spacecraft communicator, William Thornton, indicate that we would not be speaking to the crew again, probably, until the next Vanguard pass. There is a pass 35 minutes from now, at the Guam tracking station. That pass is reserved for a private medical conversation. It may be, however, that if there is time left over, as there was yesterday, that time maybe turned back over to the Flight Controllers for direct contact

SL-II MC-1091/2

Time: 15:24 CDT, 23:20:24 GMT
6/16/73

at Guam. So normally we would not expect to hear from them at the Guam tracking station the next site, but we may hear shortly thereafter at Vanguard. This is Skylab Control at 31 minutes 40 seconds after the hour.

END OF TAPE

SI-II MC-1092/1

Time: 16:05 CDT, 23:21:05 GMT

6/16/73

PAU Skylab Control at 21 hours 5 minutes
33 seconds Greenwich mean time. We have data from the
tracking station at Guam, just having come over the horizon
at Guam. We expect a private medical conference to be taking
place at the Guam station, and of course we do not monitor that
conversation. We will receive a report later and will read
it up to you as soon as it's available. Should part of this
time become available for air-to-ground with the Flight
Controllers, we will have that live, so we will remain live
in the event that there is any air-to-ground over the Guam
tracking station.

PAO Air-ground is back to normal, this is
Skylab Control.

CC AOS 2 minutes.
CDR Hi there, where's the next one and I'll
give you the evening status report?
CC Pete, we'll be coming up on Vanguard here -

21:44.

CDR Okay. 2, 1, 4, 4, very good. See you
there.

CC Roger.
CDR I can give you the food. The CDR had
everything but his two butter cookies. The SPI had every-
thing. The PLT ate, heavens he ate everything, his optional
salt was 5.5. And the CDR's was 2.0.

CC We copy.
SC Quick rundown on day 157 photo log, 16
millimeter, housekeeping 16, ETM 516 Charlie India 1296 Charlie-
India 05, housekeeping (garble) 516 Charlie India 1396 Charlie-
India 10. S073 extension M151 Charlie India 0618 Charlie
India 03. 35 millimeter Charlie India 3103, Charlie India 3051,
TI28 was completed and it's loaded in drawer H and it's gray
tape all messed up because it failed to rewind and we had to
take it out to (garble). The VS06, 103, drawer A configuration
in Alfa 1, 02 Charlie India 1296 Charlie India 0582, 03 Charlie
India 0618 Charlie India 03, A306 Charlie India 1396, Charlie
India 10A405, nothing in the supply, no percent, Charlie India
11 floating 07 Charlie India 0966, Mike Tango 03. That's it.

CC You made it. We're 1 second to LOS it
says here, Pete. We'll see you at Vanguard.

CDR Okay. N552 complete today.

CC Copy.

CC Unless there's some reason, we show S073
in low gain. We'd like that in medium gain.

CDR I haven't started to run it yet, and I
was going to start in, and look at the, the thing there, under
the program starts and request for the instructions.

CC

We copy.

SL-II MC-1092/2

Time: 16:05 CDT, 23:21:05 GMT

6/16/73

PAO Skylab Control at 21 hours 13 minutes 43 seconds Greenwich mean time. We have lost signal at the Guam tracking station. As we indicated, there was time available after the brief conference between the surgeon, Flight Surgeon, and the crew for air-to-ground and you heard spacecraft communicator William Thornton talking to the crew. The commander again is eating extra butter cookies as part of his diet, otherwise the diets were very similar to the usual reports. That's their status report for the day on the diet. We expect to hear from the crew again at the next pass at Vanguard in 29 minutes and 45 seconds. Time now is 14 minutes and 23 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-II MC1093/1

Time: 16:43 CDT, 23:21:43 GMT

6/16/73

PAO Skylab Control at 21 hours 43 minutes and 18 seconds Greenwich mean time. At the present time we are about to have acquisition of signal at the Vanguard tracking ship. As it - as the spacecraft begins it's 179th revolution about the Earth. We will stay live for air-to-ground from Vanguard.

CC Skylab, Houston. AOS for 1) minutes at Vanguard.

SPT Bless your heart.

CC SPT, Houston.

SPT Go ahead.

CC We want you to inhibit dump prior to

21:46. The angles are inner gimbal; (garble) the star tracker angles, are inner gimbal plus 0319, outer gimbal plus 2023. And we want the dump enabled by 21:54.

SPT That's if I get a star, or what?

CC Joe, that last one was anytime after - after 21:54.

SPT Is that contingent on my getting a star only, or is that regardless?

CC Whether you get a star or not, Joe, ENABLE.

SPT I don't believe it.

CC Okay, Joe.

CC Joe, was that the action or the angles?

SPT They're fine. Talk to you in a minute,

SPT Okay, Houston. Stand by 1, I'm waiting

for orbital plane (garble) to get updated.

CC Copy.

SPT Or do you people have that inhibited. We've got a star.

CC We copy. We have it inhibited, Joe.

SPT We were cut out.

CC We have it inhibited.

SPT Shall I ENABLE it?

CC That's affirm. ENABLE, please.

SPT (garble)

SPT Okay, we got a 6.6 here, now can I ENABLE momentum dump?

CC Negative. Do not ENABLE momentum dump. Do not ENABLE momentum dump.

SPT Okay, then, why were you in such a hurry for me to get a star?

SPT Houston, I assume you havent inhibit momentum dump because of the bad orbital plane error. Now that we've got a good one, I'm curious why you don't want to reenable it.

SL-II MC1093/2

Time: 16:43 CDT, 23:21:43 GMT
6/16/73

CC Stand by half.
SC Say again.
CC We took a dump sample that had wrong
data, Joe, and we were in a hurry to get it inhibited.
There was no great urgency on the star.
SPT Okay, I - All right.
SPT We could inhibit and then reenable CMG
control (garble) ATM like that with G&C (garble).
CC Stand by half, Joe.
SPT Say again, Houston.
CC I'll be with you in a second, Joe.
SPT Well, never mind, Houston.
CC Sorry, Joe.
CC SPT, possibly this will help a bit, during
the med conference we inhibited the outer gimbal angle. The
star tracker had lost the star and we got a bad data sample.
This could have been corrected, they could have forced the
contingency but the procedure that was passed up was considered
to be the optimum under the circumstances.
SPT Okay.

END OF TAPE

SL-II MC-1094/1

Time: 16:54 CDT, 23:21:54 GMT

6/16/73

CC CDR, Houston.

SC He's tied up, Houston.

SC May I pass a message?

CC Yes, the S073 is picking up too much light. We want the field of view to position 1.

SC Okay.

CC And we'll be LOS in 30 seconds here.

Ascension at 21:57.

PAO Skylab Control at 21 hours 55 minutes 39 seconds Greenwich mean time. We have lost signal at the Vanguard Tracking Station but are approximately 1 minute and 56 seconds from acquisition of signal at Ascension on rev 180. That's a correction from last time. We were ending rev 179 and beginning rev 1 - I'm sorry, rev 480, ending rev 479. We're now on 480, about a minute and 40 seconds from acquisition of signal. And we expect to hear additional conversation at this pass. We will have a number of station contacts here in a row, beginning with Ascension. Ascension, Canary Islands, and Madrid are all on rev 480. So we will remain live for air-to-ground.

CC Skylab, Houston. AOS for 15 minutes.

SC Roger.

END OF TAPE

SL-II MC-1095/1

Time: 17:08 CDT, 23:22:08 GMT

6/16/73

CC Skylab, Houston. We'll be LOS in 1
minute. There are several items here.
SC Okay.
CC We want you to change the ATM roll from
minus 6400 to plus 6400.
SC (garble)
CC Close the S056 aperture door. The TV,
per the cue card, monitor 1, XUV monitor. The video select ATM
monitor.

SC Okay, Bill. We're doing a TV tour right
now, and soon as we're done, we'll go back to the ATM
monitor.

CC Copy that, and the momentum dump needs
to be enabled before 23:16. And we'll have you at Guam at
22:41.

SC Okay, can I enable dump right now?

CC That's affirmative.

SC For roll you want plus 6400, is that right?

CC That's affirmative. Vice minus 6400.

PAO Skylab Control at 22 hours 16 minutes
and 59 seconds Greenwich mean time. We have lost signal at
the Madrid tracking station as it went over the horizon.
Presently the spacecraft is travelling over the eastern
Mediterranean. During that last pass from the south Atlantic
across Africa, the crew was engaged in a TV tour, again
going through various parts of the spacecraft to gather
some film with some commentary put on a recorder, and that
will be dumped at a later time. That TV tour is the second
TV tour to be run by the crew. They ran a TV tour yesterday
as well, and it was believed here on the ground that they
may have completed the tour at the end, although the crew
indicated that was not the case. They had 19 minutes re-
corded so far on the video tape recorder. And they were
in the process of going through the MDA and - that's the
Multiple Docking Adapter, and the airlock module and expected
to finish up in the orbital workshop. That tour will include
information on the EREP equipment, the M512 group of
experiments, the operations of the video tape recorder, the
control and display panel for the Apollo telescope mount,
atmospheric control system, caution and warning system, the
airlock module, and various other parts of the spacecraft, with
the exclusion of the wardroom area, which was filmed yester-
day. The crew has approximately 45 minutes before they go
to sleep. We should hear from them again in 23 minutes and
15 seconds, as they reach their next tracking station at Guam
This is Skylab Control at 12 minutes and 35 seconds after
the hour.

END OF TAPE

SL-II MC-1096/1

Time: 17:38 CDT 23:22:38 GMT
6/16/73

PAO Skylab Control at 22 hours 38 minutes
43 seconds Greenwich mean time. At the present time, we're
a little over 2-1/2 minutes from acquisition of signal at
the Guam tracking site. This is a nearly overhead pass, a
48 degree pass. That's at a very high angle at Guam. And
we expect to have acquisition of signal for something over
10 minutes. We have the surgeon's report from the private
medical conference held at the Guam tracking station during
the last revolution. Report is signed by Dr. Buchanan for
Dr. Hawkins is this: "The crew of Skylab II is well and
happy. They report that they are feeling "super" but could
"sure use haircuts." This report is being relayed to the
Tico." End of report. The Tico of course is the United
States ship Ticonderoga, the ship that is steaming from
San Diego to the recovery area for Friday's recovery.
To repeat that message, the crew of Skylab II is well and
happy. They report that they are feeling super but could
sure use haircuts. That report is being relayed to the
Ticonderoga where they will no doubt have haircuts, when
they return to Earth. We're approximately 1 minute and
40 seconds from acquisition of signal at the Guam tracking
station. We will remain live for air to ground from Guam.

CC Skylab Houston. AOS, 10 minutes, Guam.
PLT Roger Houston. We have one question
on tomorrow's flight plan. Two questions. What is the T027
opposite 19:00, and what time is trim burn?

CC Stand by.
CC PLT Houston.
PLT Go ahead.
CC T027 is simply the sample array and it
is not time critical. And the trim burn is 08:59:23.
CC That last one is listed on the details.
PLT Yeah, we're looking.
CC Paul, they aren't up yet, they are still
to come up, the details.

PLT Okay.
CC PLT, we have one more message for you,
when it's convenient.

PLT Go ahead.
CC We would like for you or the CDR to
change the T027/S073 shaft upper limit to 234. Return the field
of view to 0. This should be accomplished prior to 23:15.
This is because the structural blockage and it is causing
premature cut off.

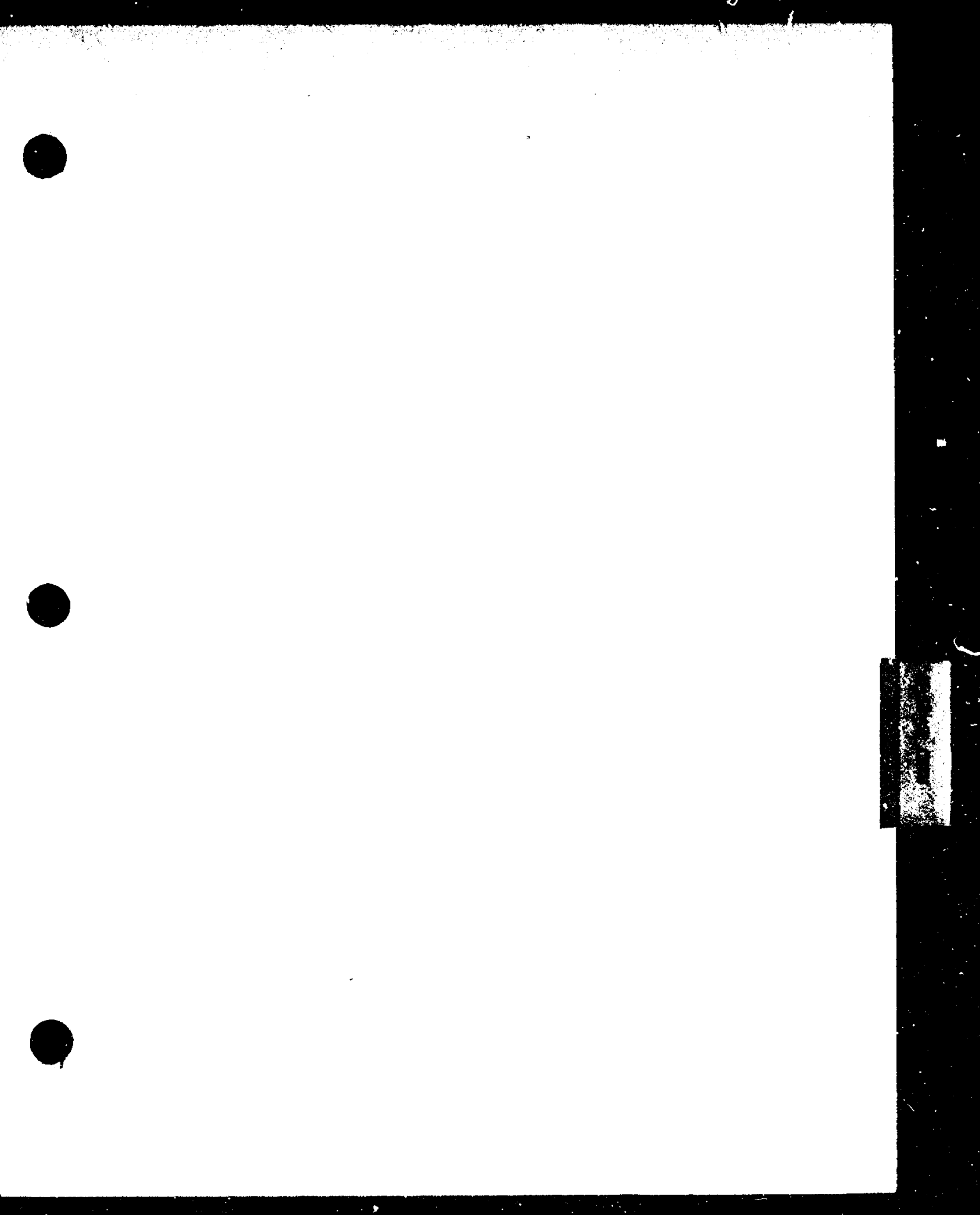
CDR 234 to shaft L and FOV to zero.
CC That's affirm.
CDR I'm telling you that's done. We did it.

SL-II MC-1096/2
Time: 17:38 CDT 23:22:38 GMT
6/15/73

CC Skylab, LOS in 1 minute for the night.
There will be a tape recorder dump at Canary at 23:41. We'll
see you in a couple of days.

CDR Okay Bill, good night.
PAO Skylab Control at 22 hours 52 minutes
39 seconds Greenwich mean time. We have lost signal at
Guam, and we do not again expect to hear from the crew. The
good night from William Thornton was given here. He said
see you in a couple of days. Spacecraft communicator Thorn-
ton is off duty tomorrow, as that shift is, the shift that
Don Puddy Flight Director, shift is off duty for the next
day, and will not be back on until the following day. So,
we do have a good night for the crew at Guam and do not
expect to hear from them again. They are scheduled to begin
their sleep period in approximately 7 minutes. The infor-
mation about the tape recorder dump that was given to them.
There will be a dump at approximately 41 minutes after the
hour at the Canary island pass. The reason for that infor-
mation is that in previous nights the crew has remained up
beyond their normal sleep period, and has been using the
tape recorder for recording messages. And it is impossible
for a message to be recorded on the tape recorder at the
same time that the tape recorder is in the play back mode
for dumping it at a tracking station. So, that's good
night to the crew. And this is the final broadcast for
Skylab Control until tomorrow morning at 2:00 a.m. Skylab
Control signing off at 53 hours - 53 minutes and 54 seconds
after the hour.

END OF TAPE



SL 11 MC-1097/1

Time: 02:01 CDT 24:07:01 GMT

6/17/73

CC Honeysuckle contact, Houston contact.

PAO Good morning, this is Skylab Control at 7 hours 1 minute Greenwich mean time, on manned mission day number 24. Skylab soon will be within acquisition and range of the Honeysuckle, Australia station. And we'll be sending a wake up call to the crew. The silver team of flight controllers lead by Flight Director Neil Hutchinson, is on duty at this time. The spacecraft communicator is astronaut Henry Hartsfield. We'll stand by for the wake up call.

CC Skylab, Houston. Good morning.

CDR Morning, Houston.

CC Well, did you get a good night's rest?

CDR You bet cha.

CC We've got about 4-1/2 minutes here left

through Honeysuckle.

CDR Okay.

CC Skylab, Houston, 1 minute to LOS, Hawaii

at 24.

PAO This is Skylab Control. The Skylab space station has passed out of range of the Honeysuckle station now. Next station to acquire will be Hawaii in 14 minutes. At 7 hours 10 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1098/1

Time: 02:21 CDT, 24:07:21 GMT
6/17/73

PAO This is Skylab Control at 7 hours 22 minutes
Greenwich mean time. Skylab coming up within acquisition at
Hawaii now. We'll stand by for conversation there.
CC Skylab, Houston through Hawaii 6-1/2 min-
utes.

PLT Roger. Henry. Hey, I just tried to a wind
up the orbital slider and it shows that our daytime pass is over
Europe. I think something's wrong. Will you have somebody
check that first ascending node, please?

CC Wilco.
CC Skylab, Houston, we blew that one. That's
a descending node. We'll get you some new numbers.
CC Skylab, Houston about 30 seconds from LOS,
Goldstone at 32.

PLT Roger.
PAO This is Skylab Control at 7 hours 32 minutes
Greenwich mean time. We've had loss of signal at Hawaii, but
Goldstone will acquire momentarily. We'll continue to stand
by.

CC Skylab, Houston through Goldstone 9 minutes.
PLT Hi.
CC Skylab, Houston. I got that slider update
for you now.

SPT Okay.
CC Okay, it should be 159.4 west at 72253, and
the other two are correct.
SPT Okay, that's 159.4 west and 072253.
CC That's affirmative.

END OF TAPE



SL-II MC-1099/1

Time: 02:35 CDT 24:07:35 GMT

6/17/73

SPT

Okay, that's 159.4 west and 072253.

CC

That's affirmative.

CDR

Listen Houston, Hank, is it 2:00 in the

morning?

CC

You had better believe.

CDR

We just passed over down town San Francisco

loud and clear midnight on Saturday night, right?

CC

Right.

CDR

When it's really clear out there, you

can see both bridges. It's a fantastic sight if you see it at night. You can see LA and San Francisco and super.

CC

Skylab, Houston, 1 minute to LOS, Bermuda

at 46.

PAO

This is Skylab Control at 7 hours 42 min-

utes Greenwich mean time. There is a short break between Goldstone and Bermuda acquisition. We'll continue to stand by during the short LOS. We should have acquisition at Bermuda in about 2 minutes.

END OF TAPE

Mission Day Wrong

SL-II MC-1100/1

Time: 02:43 CDT 24:07:43 GMT
6/17/73

CC Skylab Houston through Bermuda 6 minutes.
CC Skylab, Houston. For the CDR or PLT,
sometime this morning when you get a break, we'd like for
one of you to run up to the S073, and change the field of
view to 1. We're looking a little more lightly with
respect to the (garble)
CDR That's done.
CC Thank you sir.
CC Skylab, Houston. I've got one flight
plan change and an update to the PLT's photo pad, and to
the TV15 mod pad whenever it's convenient.
PLT Stand by we're scrambling.
CC No rush, just whenever you're ready
give me a call.
PLT Yeah, okay. Go ahead with the change -
to which plans for PLT? The (garble) or photo pad?
CC The photo pad. We're changing the flight
plan. We're deleting S073 ST-3 and that changes your pad.
All we want to do is delete the lines that say, "Leave DAC
on until S073 ST-3 is completed."
PLT Okay.
CC And I just gave you the flight plan change,
which is to delete that S073 ST-3 at 11:00.
PLT Roger.
PLT Go ahead with TV 15.
CC Okay, we've got the mission day wrong.
Down on the last line, it says, "mission day 22," it should
be 24 today.
PLT Great.
CC Skylab Houston. About 30 seconds from
LOS, Canary at 55.
PAO This is Skylab Control at 7 hours 52 min-
utes Greenwich mean time. Bermuda has had loss of signal.
And the station at the Canary Island will acquire in about
2 minutes. We'll continue to stay up for that pass at
Canaries. During the pass over the United States, Skylab
Commander, Pete Conrad reported he could see both the
Bay Bridge and the Golden Gate Bridge at San Francisco.
He called it a fantastic sight at night. Earlier he had
reported that the crew got a good night's rest last night.
We'll stand by for acquisition at Canaries.

END OF TAPE

SL-II MC-1101/1

Time: 02:53 CDT, 24:07:53 GMT

6/17/73

CC Skylab, Houston through Canaries for 9-1/2 minutes.

CC Skylab, Houston, for info we'll be commanding the proton spec OFF.

PLT Roger.

CC Skylab, Houston 30 seconds to LOS, Honey-suckle at 40.

PLT Roger.

PAO This is Skylab Control at 8 hours 5 minutes Greenwich mean time. Canaries has had loss of signal. Next station to acquire will be Honeysuckle in 34 minutes. Skylab 2 crew scheduled to do a TRIM burn this morning. That maneuver designed to put the Skylab workshop back on the original ground track by the time the Skylab 3 crew arrives at the workshop. This maneuver will be performed with the service module reaction control system. Ignition time 8 hours 59 minutes 27 seconds Greenwich mean time. It's a two-jet burn. We'll use two of the RCS quads on the service module. Duration of the burn is 9 seconds. The Delta-V, or change in velocity as a result of maneuver, three-tenths of a foot per second, and that will be a posigrade maneuver. All three crewmen have Apollo telescope mount operation interspersed in their schedules throughout the day. Today's flight plan schedules a total of 5 hours and 42 minutes of Apollo telescope mount operations. In addition, the Commander has some S019 operations, the ultraviolet steller astronomy experiment, for which Scientist Astronaut, Carl Henize of the Johnson Space Center is principle investigator. And he has T027 operations scheduled - the ATM contamination measurement. The Science Pilot, Joe Kerwin, in addition to ATM operations has some time scheduled to calibrate the M074, the specimen mass measurement device. He'll also be the observer for a M131 experiment, the human vestibular function. Pilot Paul Weitz will be the subject for that experiment. And then following lunch, Kerwin will be the subject for M131 and Weitz will be the observer. Kerwin will also be the observer for M092 and M171, the lower body negative pressure and the metabolic activity experiments while Paul Weitz is the subject. Paul Weitz is also scheduled for some S019 operations today - -

END OF TAPE

SL-II MC-1102/1

Time: 03:10 CDT 24:08:10 GMT
6/17/73

PAO Paul Weitz is also scheduled for some S019 operations today. And Joe Kerwin is scheduled for some additional ED31 experiments. That's the student experiment on bacteria spores. Skylab is over Africa now, about 29-1/2 minutes away from acquisition at Honeysuckle Australia. We'll come back up just prior to acquisition at Honeysuckle. At 8 hours 10 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1103/1

Time: 03:37 CDT, 24:08:37 GMT
6/17/73

PAO This is Skylab Control at 8 hours 38 minutes
Greenwich mean time. We're standing by for acquisition at
Honeysuckle.

CC Skylab, Houston through Honeysuckle for
9 minutes.

PLT Roger.

CC Skylab, Houston. I've got a couple of
things for the SPT if it's convenient to listen right now.

SPT Go ahead.

CC Okay. During the night on the S052 we
noticed the temperatures to be decreasing and we commanded
the thermal system ON and temps are increasing. When you
get to the console we'd like for you to verify on the WLC
that the thermal switch is ON, and report the status about
how you find it. And also get your SAP update. Filament's
79 at 040.2, 81 and 84 have almost - I won't give you those
coordinates you've probably already got them. They've almost
totally disappeared since the two bright M3 flare in active
region 37 yesterday. We had 7 subflares without X-rays in
active regions 37 and 41 on that big complex there, between
18:00 yesterday and 04:00 today. The subflares without X-rays
have also been noted in active regions 40, 42, and 43. And
there's a new active region 45 at 080.7 with a small bi-polar
plage.

SPT Okay, now let me ask you guys something,
Houston. You sent us a lot of AIM messages last night, most
of which contradict each other. I got one nice little mes-
sage telling me how to use the flare prep for unattended
cue card from which I inferred that I was - that I should have
used it yesterday and taken lots of pictures of that flare
and we came around the Horn and saw. I'm also told on the
solar activity pad that B2 A and B are saving their film for
flares, and on the AIM schedule pad that 82A is to have flare
ENABLED on it most of the passes. Then I got a message that
says 82A and B will not be initiated in the flare mode, and
I'm not quite sure what you guys are thinking.

CC Okay, let me - let us think that over a
bit, Joe.

SPT Okay.

SPT I guess the message about the unattended
cue card did not answer my question which was, do the PIs make
it scientifically valuable and interesting to them to
get data on flare fall when they haven't had the rise. We
know how to get the cue card.

CC Copy.

SPT Houston, SPT.

CC Go ahead.

SPT There's another aspect of that 82 and B

SL-II MC-1103/2

Time: 03:37 CDT, 24:08:37 GMT

6/17/73

message. It says that the cameras should no longer be used after four and sixteen frames remaining respectively, I believe it is. Understand that we operate those cameras per the schedule pad and I assume that the PIs will not schedule more data taking, then will run the film close to those numbers plus a reasonable pad, because if they will know, our frames remaining indicators onboard are not very reliable.

CC

Roger, copy.

END OF TAPE

SL-II MC-1104/1

Time: 03:45 CDT 24:08:45 GMT
6/17/73

CC Joe, in answer to your question about the flares, the answer is if we don't see the rise, we don't want to see the fall.

SPT Okay. How about 82A and B now? Am I to not use them for any more flares for the rest of the mission, or follow the schedule pad?

SPT Or am I to use them in other than the flare mode?

CC Okay, what we want you to do there is use the 82A and B sprocket called for in the pad. However, when you get down to frames remaining 4 and 16, we want to discontinue using 82A and B.

SPT So right now, we may use 82A and B for flares. Is that correct?

CC That is affirmative.

SPT Okay.

CC And Skylab Houston. There was a question the other night about the Delta P light on the holding tank when you were dumping that thing. Or I guess it was on the condensate tank. And we've looked at what you said, and looked at the data, and we think that all your indications were proper as best we could determine.

CDR What does that mean? It means we got a leak somewhere and we don't know where it is still.

CC Well, I guess if we're reading what you said correctly, the water went into the holding tank, if we understand it right, the two cups of water you are concerned about. And we think the Delta P light you're getting there is the same old bugaboo we've had all along is a leaky QD.

CDR No, I disagree with you Hank. It didn't go into any water holding tank. The holding tank was disconnected, we're talking about just the 216 panel itself. It should hold its own Delta P, and it goes from a Delta P of 4 to about .5 in that 15 minutes when it's running by itself. It's got a leak in it somewhere, and it is not in one of those QDs.

PLT I tell you why we think it is not a QD, Hank. Because the first time - I agree with you. I don't know where else the pressure is leaking into the system. We decided the first time it was a leaky QD in that aft airlock (garble). Yesterday we tried disconnecting it and we disconnected the line and the holding tank so that other (garble) that was also a leaky QD. And for what it's worth, I then put the duct cover to plug in that QD, and we dumped it plugged the vacuum on it and it - -

CC We are about LOS.

SL-II MC-1104/2

Time: 03:45 CDT 24:08:45 GMT

6/17/73

PLT
there.

- -wherever the little leak was it was still

CC

We'll be coming up on Hawaii on the hour.

PAO

This is Skylab Control, at 8 hours
49 minutes Greenwich mean time. Skylab passed beyond range
of Honeysuckle now. Next station to acquire will be Hawaii
in about 10 minutes. In the Control Center, Flight Director
Milton Windler and his maroon team of flight controllers
are preparing to relieve Flight Director Neil Hutchinson
and the silver team. We'll come back up just prior to
Hawaii acquisition. At 8 hours 50 minutes, this is Skylab
Control.

END OF TAPE

Good Burn

SL-II MC-1105/1

Time: 3:57 CDT 24:08:57 GMT
6/17/73

PAO This is Skylab Control at 8 hours 57 minutes Greenwich mean time. Skylab is about 2 minutes away from acquisition at Hawaii. The crew should perform this trim burn just prior to acquisition, mission time 8 hours 59 minutes 27 seconds. It is designed to put the Skylab workshop back on the original ground track by the time the Skylab III crew arrives at the workshop. A very short duration burn, 9 seconds, the service module reaction control system. Two jets postgrade burn, 3/10 of a second, 3/10 of a foot per second. We'll stand by for acquisition at Hawaii.

CC Skylab Houston. AOS Hawaii 9 minutes.
CDR Good morning.
CC Good morning.
CDR Roger Houston. The burn went on time.
CC Very good. Thank you, Pete.
CDR I wondered why we got S019 today?
CC Oh, no this is not Carl.
CDR Oh, I sound like Carl.
CC Crip finally decided to come back to

work.

CDR I wondered what happened to you.
PAO The Capcom is astronaut Bob Crippen.
PAO Telemetry indications are that the burn

was a good one.

PAO This is Skylab Control. We're estimating a change of shift briefing with Flight Director Neil Hutchinson for 4:15 a.m. central daylight time in the briefing room at the Johnson Space Center News Center. Change of shift briefing 4:15 a.m.

CDR I can't imagine that I'm standing up here photographing these locker doors for these guys on TV so they can understand what we did. It's hard for me to understand that.

CC Roger.
CDR Either B channel is unreadable or we're not saying it right.

CC Okay. I'm sure that they did get the information on B channel but somebody apparently requested the TV just for visual confirmation.

CDR I understand the (garble)
CC I don't understand it either.

SPT Houston, SPT.

CC Go SPT.

SPT I forgot to tell Hank. We got (garble) about 82A and flares and stuff, I forgot to tell him that the 52 thermal switch is and was in the prime position, when I came on console.

SL-II MC-1105/2

Time: 03:57 CDT 24:08:57 GMT
6/17/73

CC Roger, copy.
SPT Hardheaded.
CC Rog.SPT

And on this 82A and B flare business, I still don't understand if they wanted us to not use flare mode after 4 and 16 frames remaining, but the two experiments take 24 and 48 photographs respectively during a flare. Are they sure they don't want me to stop using the flare mode at some higher number? Or is our frames remaining (garble) wrong?

CC Well, the way you read that was correct.
We'll reverify if that's what they want though.SPT

Because if we wait that long they're not going to have their calibration film left. They have to risk it if they want to run.

CC Okay. I think the intent is that they really want those films for calibration, but we'll reverify that.

SPT Well you see what I mean, Crip. If a flare happens when 82A has 10 frames remaining, and I go into flare mode, it's all wiped out.

CC Roger, understand.

END OF TAPE

SL-II HC-1106/1

Time: 04:06 CDT, 24:09:06 GMT
6/17/73

CC Skylab, Houston 1 minute to LOS. Goldstone
at 09:12, 09:12.
SPT (Garble)
CC We'll try to have an answer for you on
your 82A and B there, Joe.
SPT We won't get any flares until then.
CC Promise.
SPT Roger, copy.
PAO This is Skylab Control at 9 hours 9 minutes
Greenwich mean time. Hawaii's had loss of signal. Goldstone
will acquire in about a minute and a half. We'll continue
to stand by.
CC Skylab, Houston AOS Goldstone 6 minutes.
SPT Hello.
SPT Hey, Crip, ask S073 if I can terminate
now. It's not running on the program right now is it, or
is it?
CC Checking.
CDR That's what I have to say to this TV.
CC I'll tell Al Bain that.
CDR And tell him I played deck in the suit
stowage and locker location.
CC Roger.
CC Paul, you're GO to terminate S073.
SPT Okay.
PLT Hey Houston, Skylab.
CC Go Skylab.
CC Skylab, Houston. You called?
PLT Yes, I had to move to a different box be-
cause I can't get program to 6 to work on S073. While you're
thinking about that, can I just manually drive - or using
the switches drive the shaft in trunnion to the proper settings
and then retract it?
CC Roger, Paul. You got a GO to do that manually,
trunnion to 0 and shaft to 40.
CC Skylab, Houston. About 30 seconds from
LOS, Mila at 9:22.
SPT Crip, if you answered my last question,
I didn't get your reply. Did you give me the answer yet?
CC Roger, you got a GO to do that manually, Paul.
Trunnion to 0 and shaft to 40 for retraction.
SPT Okay, I terminated mode three, set up
(garble) start switch the program light came on but it never
drogued.
CC Roger. Corollary checking that out.
SPT Okay.
PAO This is Skylab Control at 9 hours 19 minutes.
Goldstone has had loss of signal. There's about a three minute

SL-II MC-1106/2

Time: 04:06 CDT, 24:09:06 GMT
6/17/73

gap between Goldstone and acquisition at the Merit Island, Florida station. Flight Director, Neil Hutchinson, has left the control center on his way to the building 1 briefing room at JSC for the Change-of- briefing. That briefing should start in approximately 4 to 5 minutes. We'll take this line down and tape any air-ground transmissions during the Change-of-shift briefing, and play back the tape at the earliest opportunity. At nine hours and 20 minutes Greenwich mean time, this is Skylab Control.

FND OF TAPE

Star Track Questions

SL-II MC-1107/1

Time: 04:34 CD1 24:09:34 GMT

6/17/73

PAO This is Skylab Control at 9 hours 34 minutes Greenwich mean time. The Canary Island station has just acquired Skylab. This pass will continue on into the Ascension Island coverage. We'll have coverage here for the next 15 minutes. We'll stay up live for these two passes and then play the accumulated tape after Ascension loss of signal.

CC Skylab, Houston. AOS over Canary for 14 minutes, 14 minutes.

CDR Roger.

CC SPT, Houston. If you are copying, regarding your 82A and B question involved with the flare, the word we have is that if you get a flare use 82A and B as required to record it.

SPT Okay.

CC Skylab, we're loading momentum bias of 0 back into the computer, we'd like for you to stay off the DAS for a minute or so, please.

SPT Okay.

CDR Hey, Crip.

CC Go ahead.

CDR For somebody to be thinking about, let's say that we start running behind you down to the wire and I start the S019 stuff late. Do they want the first star field photographed late and get what we can, or do they want that star field sequence picked up on time?

CC Okay, we'll look at that. And I'm reviewing a procedure right now for you to pass up for you on that 73. We'll have it for you in just a minute.

SC Okay. I'm standing right here. I'll just do it as you read it.

CC Okay, Paul. The procedure that we're basically going to try to do, is to take off the automatic programmer. And the procedure for you to do is turn the power off.

SC Got it.

CC Okay. Disconnect the automatic programmer. That's the cable, and then insert the jumper plug on the manual control panel.

SC It's in work.

SC Is that shorting plug Juliett 10?

CC Stand by. That's affirmative.

SC And it does go into manual control panel, right?

CC That's affirm.

SC That's complete.

SL-II MC-1107/2

Time: 04:34 CDT, 24:09:34 GMT

6/17/73

CC Okay. We'd like you to go ahead and try
again, to drive it and we'd like for you to also note that you
cannot drive the shaft and trunnion at the same time.

SC Still does the same thing, Bob.

CC That's what we were afraid of.

SC Me too.

END OF TAPE

Programmer Prob.

SL-II MC-1108/1

Time: 04:43 CDT, 24:09:43 GMT

6/17/73

CC PLT, Houston. We are still pondering what the problem is. Obviously it's not in the automatic programmer, meanwhile we'd like you to go ahead and retract two rods while we're thinking about it.

PLT Okay.

CC And leave the power on it.

PLT You want the power left on, all right.

CC SPI, Houston. The DAS is yours once more and we need you to enable the dump for us please, sir.

CC Skylab, Houston. We're one minute from LOS. We'll see you again over Carnarvon at 10:13, 10:13 and we'll be doing a data recorder dump at Carnarvon.

PLT Roger.

PAO This is Skylab Control, at 9 hours 50 minutes Greenwich mean time. Ascension has loss of signal. The next station to acquire will be Carnarvon in 22 minutes. There was considerable discussion during this pass concerning a problem with the S073 experiment. That's the gegenschein zodiacal light experiment that's installed in the scientific airlock. Paul Wertz can't move the shaft and trunnion to the desired positions. It was believed that the problem might be in the automatic programmer. And the ground passed up a procedure to disconnect this programmer from the system and enable manual control only. That procedure was not successful, so the problem does not appear to be in the automatic programmer. The corollary experiment controller and his team came, are continuing to study the problem. And there will probably be further discussion on S073 over the Carnarvon station. We accumulated 3 minutes 30 seconds in tape during the change of shift briefing. We'll play that tape for you now.

END OF TAPE

SL-II MC-1109/1

Time: 4:52 CDT, 24:09:52 GMT

6/17/73

CC Skylab, Houston. We're AOS over Mila for 9 minutes. And Paul, we indicate that you're going shaft down to zero and that shaft should be at 40.

SC We got more problems than that, Bob, unless our readout is not right. We had an upper shaft limit in here. We've changed it now, whatever it was. 235. The shaft angle is sitting at 345, and as soon as you do anything, - when you go to DECREASE on this shaft, it'll run down, as soon as you go out of DECREASE, it goes back to what is apparently the stop at 345. In order to run any data, if I go to TRUNNION DECREASE, they both stop. As soon as I go TRUNNION off - they're both off the shaftal drive to 345.

SC (Garble)

SC What are you indicating for the angle of the shaft right now?

CC Stand by one.

CC Okay, Paul. We're still looking at the angle right now. We recommend that you cycle the power off and then back on.

SC We've done that half a dozen times, Bob.

CC Okay.

SC We also did it with the camera program disabled. That didn't seem to make any difference. We've done it all zips on the programmer, that didn't seem to make any difference.

SC Normally with the shaft, you leave the TRUNNION in DECREASE.

SC It looks like the SHAFT DECREASE switch selector is stuck in the SHAFT INCREASE position.

CC Roger.

SC Bob, what we're reading on board right now is zero, whoops! Wait. Okay. Now that the CDR has gone TRUNNION the shaft angle is 040 and the trunnion angle is 117. And the only way we got it stopped now is with the SHAFT switch is OFF and the TRUNNION switch in DECREASE.

SC Are you still there, Houston?

CC Roger. We're showing a trunnion of 112 and a shaft of 40 right now.

SC Okay. When, - it wasn't doing it before for me, but now Pete's got it. We've stepped back off a few steps on trunnion some way. (Garble) was playing with the switches and we got it to count down a few counts. And with TRUNNION in either INCREASE or DECREASE, it will stop the shaft from rotating now.

CC Roger. Understand. TRUNNION INCREASE or DECREASE will stop the shaft.

SC Yeah, but it won't do anything to the trunnion.

CC Roger.

SL-II MC-1109/2
Time: 4:52 CDT, 24:09:52 GMT
6/17/73

CC Skylab, Houston. We're 1 minute till
LOS. We're still looking at some procedure that might solve
your 73 problem, and we'll try to have that for you over
Canary at 9:33, 33.

CC And, Joe, just a reminder, we do need to
be in OPTICAL REFERENCE on 55 for the next thing coming up.
SC Okay.

PAO This is Skylab Control. That's the end
of the tape. We'll come back up just prior to acquisition at
Carnarvon. At 9 hours 55 minutes Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-II MC110/1

Time: 05:11 CDT, 24:10:11 GMT
6/17/73

PAO This is Skylab Control, at 10 hours
11 minutes Greenwich mean time. Skylab is nearing acquisition
at the Carnarvon, Australia station. We'll stand by for
this pass.

CC Skylab, Houston. We're AOS over Carnarvon
for 9 minutes. And we will be doing the data recorder dump.

CC PLT, Houston.

SC He can't come to the phone right now, but -
but we got it into two rods to get us into good shape. And
whatever was hung up, unhung itself; and he got it manually
to O TRUNNION 040 SHAFT, and it's in and he's taking it down.

CC Very good; solves all of our problems.

SC There you go. Stick with us kid.

CC Roger, can fix anything.

SC Meanwhile the Betsy Production TV Company
is still at it.

CC Roger.

CC PLT, Houston. Regarding your question
as to which star field to do first; if you're short on time,
we'd like you to go ahead and take the first star field first.
We assume that you shouldn't be in too much of a time constraint,
though.

SC Yeah.

SC I hope our demonstration of how triangle
shoes work is sufficient.

CC I'm sure we'll enjoy it.

SC Hey.

SC Hey, Crip, I'm not going to give a demonstration
of the little balls on the toes of the feet (garble); because
I don't use them, and I don't have time.

CC Copy.

SC This is all strictly personal preference.
Joe likes his; uses them all the time except when he's riding
the bike because you got to use triangles, and I think Paul and I
both use the triangles all the time because it was just
easier than changing about.

CC Roger.

PAO This is Skylab Control, at 10 hours
22 minutes Greenwich mean time. Skylab has passed beyond
range at Carnarvon; will be within range at Guam in 5 minutes.
We'll come back up just prior to the Guam pass. At 10 hours
22 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1111/1

Time: 5:25 CDT, 24:10:25 GMT
6/17/73

PAO This is Skylab Control at 10 hours 25 minutes Greenwich mean time. Skylab coming up on the Guam tracking station. Over Carnarvon, Paul Weitz reported that he had shortened the extension on the S073 experiment, the gegenschein/zodiacal experiment, from 7 rods to 2 rods and then had shaken the experiment package and following the shaking, he was able to drive the shaft and trunnion to the positions he wanted. We'll stand by now for acquisition through Guam.

CC Skylab, Houston. We're AOS over Guam for 6 minutes. Sorry about that missed call for LOS.

SC Houston, CDR. On TV-15, I'm going to skip the shower. And then the TV tour 1, which has no voice. They didn't want voice, anyhow, and I've expended more than enough time on this thing already, like an hour and 20 minutes.

CC Okay.

SC You got three (garble) those shoes and the other, two items that were asked for in the print this morning: suit stowage and locker doors and that is it.

CC Roger.

SC Houston, SPT.

CC Go, SPT.

SC The S056 special troubleshooting procedure has just been completed, and the two sequences were completely nominal.

CC Roger. Copy both nominal.

CC CDR, Houston. Since you've completed your TV, we're going to go ahead and start rewinding, so we can do our dump at Goldstone.

SC Yea!

CC Skylab, Houston. We're 30 seconds from LOS. Goldstone at 51, 10:51.

PAO This is Skylab Control at 10 hours 34 minutes Greenwich mean time. Guam has had loss of signal. Skylab will miss Hawaii on this revolution. The next station to acquire will be Goldstone in 17 minutes. We'll come back up just prior to acquisition there. At 10 hours 34 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

AL 1111 8ATT

SL-II MC-1112/1
Time: 05:50 CDT, 24:10:50 GMT
6/17/73

PAO This is Skylab Control, at 10 hours
50 minutes Greenwich mean time. And the Goldstone tracking
station is about to acquire Skylab. We'll stand by through
this pass over the United States.

CC Skylab, Houston. AOS over the States
for about 15 minutes.

SC Okay, let me know when you get your TV.

CC Okay. Houston. We're dumping the VTR at
this time. It'll be our Mila pass at 57 before we're going
to get real time.

SC All righty.

SC Fred, you got time for a couple of words on
S073?

CC Roger.

SC Okay. When I turned the power off, or left it
on prior to retracting it last time I looked - hey, let's
look at something. Wait a minute.

SC Okay, Crip, it was the reading whatever
I told you. I had the shaft of 40 and locked up by the
SHAFT OFF, and the TRUNNION to DECREASE. And it was reading
whatever the last number was I gave you, 117 or so. I pulled
it in when I got into rod A. I was pulling it in in (garble)
until apparently the photometer hit the side of the vehicle;
not very hard, just tapped it. And then I went around the side,
I took the first B rod off and stowed it, and went around
the side and looked and the trunnion was reading about 15 or
so. So I went ahead and cycled it and it came right on
down to zero and retracted it and we're home free.

CC Okay, so you didn't actually physically
shake the inside case then?

SC Did you mean the big long box?

CC Affirm.

SC Heavens no! I don't want to tear the
airlock out of the wall.

CC Roger. Okay, we misinterpreted what
was said awhile ago.

SC Oh, okay. No, I pulled it in and banged
photometer head up against the outside of the vehicle, and
that's what stopped whatever was going on.

CC Okay, we copy. And Paul, I'd like to
change the word I gave you on S019 a while ago. If you do
get late for any reason, we want you to pick up the times
on the pad itself and just eliminate what you missed.

SC Okay, I shouldn't be late.

CC CDR, Houston. We're ready for your ATM
TV at this time, and give us a call when you finish the

SL-11 MC-1112/2

Time: 05:50 CDT, 24:10:50 GMT

6/17/73

required cycling.

SC
and I'll give it to you (garble).

CC

SC

CC

SC

to roll.

CC

Okay, you've I'm looking at H-Alpha 2 right now,

Roger.

H-Alpha 1.

Roger.

That's white light coronagraph, I'm starting

Roger, looks pretty.

END OF TAPE

SL-11 MC-1113/1

Time: 06:02 CDT, 24:11:02 GMT
6/17/73

SC XUV fine.
CC CDR, Houston. We blew that last XUV mon
integration sequence on the ground here, we would appreciate
it if you could perform it over for us.

SC Okay.
SC Coming at you.
CC Skylab, Houston. LOS in 1 minute. As-
cension at 11:19, 1, 1, 1, 9.

PAO This is Skylab Control at 11 hours 10
minutes Greenwich mean time. Bermuda has had loss of signal.
And Ascension will acquire Skylab in 8 minutes. We'll come
back up for that pass. At 11 hours 11 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1114/1

Time: 06:17 CDT, 24:11:17 GMT
6/17/73

PAO This is Skylab Control at 11 hours 17 minutes Greenwich mean time. The tracking station at Ascension Island is about to acquire the spacecraft. We'll stand by for this pass.

CC Skylab, Houston. AOS over Ascension for about 5 minutes.

SC Roger, Houston.

CC PLT, Houston. You have a, need a minute sometime this pass or the next, to talk about a MOD for your SO19 Pad.

SC Come on.

CC Was that you, Paul?

SC Yes, wait a minute.

SC Okay. Go ahead, I'm ready for your deletions.

CC Yes. If you'll look down at the bottom of your pad, that - at 12:07 we have a field 10 and then we got 11 and 12. There's a single star used for those 3 fields and it's really not available until 12:08. What we'd like to do is to drop down and to pick up fields 9, 12 and 11, uh, 9, 11, before you get into fields 10, 11 and 12.
And I - -

SC (garble)

CC Okay. I can give you some times, which are just recommended times, basically all we're doing is at 12:07 picking up fields 9, 12 and 9, 11.

SC Okay.

CC Okay. If you'd like to copy, I can go ahead and give you these recommended times for the field.

SC Wait one.

SC Okay.

CC Okay. At, for field 912, we'd like that done at 12:07. 911 at 12:11. Field 10 at 12:15. 11 at 12:16. Field 12 at 12:18.

SC That's the same way I figured it out. How about that?

CC I knew you could do it all along. (Music)

CC And CDR, Houston. We copy you in optical reference on 55 and we need you in mechanical for that particular step.

SC Roger.

CC Skylab, Houston. We're 1 minute until LOS. See you again at Carnarvon at 11:50, 1, 1, 5, 0.

SC Hi, Houston. What do you want to do if this thing hangs up in active 2 long? Restart it or quit?

CC We'll check it.

PAO This is Skylab Control at 11 hours 25 minutes Greenwich mean time. Ascension has had loss of signal. Skylab will next be acquired by the Carnarvon, Australia station, in about 24 minutes. We'll come back up just prior to acquisition at Carnarvon. At 11 hours 25 minutes Greenwich mean time, this is Skylab Control. Fix it if she hangs up?

END OF TAPE

SL-II MC-1115/1

Time: 06:48 CDT, 24:11:48 GMT

6/17/73

PAO This is Skylab Control at 11 hours 48 minutes Greenwich mean time. We're standing by for Skylab acquisition at Carnarvon.

CC Skylab, Houston. AOS Carnarvon 10 minutes.

SC Roger.

CC And CDR, if you'll stay off the DAS for us, please, we'll be doing a NAV update this pass.

SC Roger.

CC Roger, and break a, PLT, Houston. I know you're busy getting ready to set up on this S019, but believe it or not, we got another MOD at the end of your pad. On field 10 and 11 and 12, you should add 100 degrees to each of the rotations, in other words you should be 184.7, 185.7, and 184.7. No need to acknowledge.

SC He acknowledged, Houston, in his own fashion. And the carbon di - monoxide composition of the spacecraft atmosphere is undetectable.

CC Roger. Undetectable. Yeah, I was afraid of his acknowledgement, that's why I asked not to get one.

SC Okay.

SC They're making up a story.

CC Roger.

SC I calmly whipped out my little pencil and made the changes in fields 8, 9, and 10, like you wanted.

CC Skylab, Houston. The DAS is yours once more.

CC Skylab, Houston. LOS in 1 minute. Guam at 12:03, 1, 2, 0, 3.

SC Roger.

PAO This is Skylab Control at 12 hours Greenwich mean time. Carnarvon has had loss of signal. A very short LOS between Carnarvon and acquisition at Guam. We're about 2 minutes away from Guam acquisition. We'll continue to stand by for that pass.

END OF TAPE

IV Tour

SL-II MC1116/1

Time: 07:00 CDT, 24:12:00 GMT

6/17/73

CC Skylab, Houston. AOS, Guam 10 minutes,
10 minutes.
SC Hey, Crip, are you there?
CC Affirm.
SC (Garble) get the 509, make it line 81 and
82 of the shopping list is complete.
CC Roger. Understand complete.
CC CDR, Houston. If you can give us the
time hack on how long it took to charge the bottle, we'd appreciate it.
SC Oh, it quit hitting at me in about 3 minutes.
CC Thank you.
SC Hey, Crip, did they get good voice on
the TV last night?
CC Okay.
CC Skylab, Houston. Regarding that TV voice,
so we can be sure, which event are you talking about? Are
you speaking of the tour last night?
SC Yes, Charlie.
CC Skylab, Houston. Regarding the voice on
TV, we're advised that the voice was received however, it was
of poor quality.
SC Okay, that's those bloody mikes. They
(garble) all righty. Thank you. Also on channel B you might see
if it's any better there. We recorded B also.
CC Roger. And we're 1 minute until LOS. See
you over Goldstone at 12:28, 1228.
SC Okay, it's your last chance to make changes
to S019.
CC Aren't you glad?
CC We have Pete's pad later.
SC Thanks.

END OF TAPE

SL-II NC-1117/1

Time: 07:13 CDT, 24:12:13 GMT
5/17/73

PAO This is Skylab Control at 12 hours 13
minutes Greenwich mean time. Guam has had loss of signal.
Skylab will next be acquired by the Goldstone tracking
station in 15-1/2 minutes. We'll come back up then. At
12 hours 13 minutes, this is Skylab Control.

END OF TAPE

Work Phase

SL-II MC1118/1

Time: 07:27 CDT, 24:12:27 GMT

6/17/73

PAO This is Skylab Control, 12 hours 27 minutes Greenwich mean time. Skylab is now within range of Goldstone, we'll stand by for acquisition there.

CC Skylab, Houston. We're AOS over Goldstone for about 17 minutes.

SC Okay, Houston. I had a very strange thing just happened with our orbit phase clock. As it counted through 60 minutes and it got down to 59 minutes and something and suddenly jumped and lost 4 minutes. It jumped to 55 minutes. And is now counting 51:53, which I don't think is right.

CC Okay, we're looking at it.

SC Thank you.

SC And only 3 more exposures and I'll be done with S019. Hang in there.

CC Roger. Copy, Paul.

SC Hey, Crip, how about having them look at 56 and see if it's hung up in filter 1?

CC Wilco.

SC By the way, it hung up a second time in filter 1 and (garble) during the last rev.

CC Roger, copy.

CC CDR, Houston. Can you associate that clock change with when you enabled dump?

SC Well, that could have been, it could have been. I can't say for sure, but it could have been.

SC As a matter of fact, I think I looked at the clock, it's 60 and enable dump and then looked back again and sure enough it was about 55, so maybe that's what it was.

CC Okay, we're checking to verify that it's reading correctly now.

CC CDR, Houston. 56 apparently is hung up again and we need you to hit START; and by the way, we have a pad for you in the teleprinter.

SC Okay, wait 1.

SC You there, Houston?

CC Affirmative.

SC Tell me your update.

CC Roger.

SC You got a pad for me, Houston?

SC Hello, world.

SC Hello, Houston, are you there?

CC Affirmative.

SC All right, you have a pad for me?

CC We have sent you a message. If you didn't receive it we can retransmit it.

SC You mean in the teleprinter?

CC Affirm.

SC Oh, okay.

SC I got it, thank you.

CC Roger.

END OF TAPE

SL-II MC-1119/1
Time: 07:41 CDT, 24:12:41 GMT
6/17/73

CC Skylab, Houston. Regarding your orbit phase clock, it does appear that the time change is contributable to when you enabled dump and the time that you're looking at now is approximately correct according to our calculations. And we do have a long LOS coming up, - It's about 1 minute from now and we'll see you again over Goldstone at 14:05, 1, 4, 0, 5. At which time we'll be doing a data recorder dump.

SC 1, 4, 0, 5. Got you. Thank you.
PAO This is Skylab Control; 12 hours 46 minutes Greenwich mean time. The Bermuda and MILA stations have had loss of signal. Tracking ship Vanguard will be the next station to acquire. The low elevation pass, and we may not get air-to-ground on that pass. If we do not, the next station will be Goldstone in 1 hour and 17 minutes. We'll come back up prior to Vanguard and see if we get air-to-ground at that station. At 12 hours 47 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1120/1

Time: 07:52 CDT, 24:12:52 GMT
6/17/73

PAO This is Skylab Control at 21 hours
52 minutes Greenwich mean time. We will not try to acquire
Skylab at the Vanguard on this revolution. So the next
acquisition will be at Goldstone in 1 hour and 12 minutes,
1 hour and 12 minutes until the next acquisition. At 12
hours 53 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

Cross Talk

SL-II MC1121/1

Time: 09:04 CDT, 24:14:04 GMT
6/17/73

PAO This is Skylab Control, at 14 hours
4 minutes Greenwich mean time. Skylab coming within range
now at the Goldstone, California tracking station. We'll
stand by.

PAO This is Skylab Control. This is the
crew's lunch period during this pass over the United States.
We'll continue to stand by.

CC Skylab, Houston. We have you over the
states now for about 8 more minutes.

SC Roger, Crip.

CC And we copy the experiment 1 recorder
is on at this time. Appreciate it if you turn it off if
it is not being used and we'll dump it.

SC Okay.

SC If anyone cares, the PLT makes 30 rpm.
All these stinking wires didn't get in the PLSS.

CC Fantastic, I didn't think anybody could
do that.

SC I didn't either.

CC Skylab, Houston. For your info we have
your flight plan for tomorrow onboard at this time.

SC Holy mackerel!

CC Would you believe that?

SC Frankly, no. We're going to go look.

SC We haven't finished today's yet, Houston.

CC Say again.

SC We haven't finished today's flight plan
yet. We can't start on tomorrow's.

CC Roger. We just got tired of staying ahead
of you guys.

SC Yeah, but you know if we finish early
today we'll start on tomorrow's pad.

CC Okey-doke.

CC And for your information, we also have
your details ready, but we aren't going to send those to
you yet.

SC Chicken.

SC Hey, Crip, you know on fishing boats and
talking on S-band? We're getting a little cross talk clunk up here
from something. Sounds like a boat.

CC Roger, we copy cross-talk every once and
a while on our loop also. I'm not sure exactly where it's
coming from.

SC Excerpts we've heard all flight.

CC Skylab, Houston. One minute until LOS,
Vanguard at 14:30, 1430. We'll be doing a data recorder
dump at Vanguard.

SL-II MC1121/2

Time: 09:04 CDT, 24:14:04 GMT
6/17/73

SC

PAO

Roger, Crip.

This is Skylab Control, at 14 hours
20 minutes Greenwich mean time. The Texas tracking station
at Corpus Cristi has loss of signal with Skylab. She'll move
now - move down over South America and will be acquired
by the Vanguard tracking ship in 9 minutes. We'll come
back up at that time. At 14 hours 20 minutes, this is
Skylab Control.

END OF TAPE

SL-II MC-1122/1
Time: 09:28 CDT, 24:14:28 GMT
6/17/73

PAO This is Skylab Control at 14 hours 28
minutes Greenwich mean time. Skylab is being acquired now by
the Vanguard tracking ship. We'll stand by for air-to-ground
communications there.

CC Skylab, Houston. ACS over Vanguard, and
we'll be doing a data recorder dump.

SC Roger.

END OF TAPE

SL-II MC-1123/1

Time: 09:36 CDT, 24:14:36 GMT

6/17/73

PAO This is Skylab Control at 14 hours 42
minutes Greenwich mean time. Skylab is out of range of the
Vanguard ship now. The next station to acquire will be
Goldstone, 1 hour and 1 minute from now. At 14 hours 43
minutes, this is Skylab Control.

END OF TAPE

Message from President

SL-II MC1124/1

Time: 10:00 CDT, 24:15:00 GMT
6/17/73

PAO This is Skylab Control, at 15 hours Greenwich mean time. During Skylab's pass over the United States on the last revolution there was a conversation between the President of the United States and the Skylab crew. The duration of the conversation was 1 minute 40 seconds. We have a tape of that conversation, we'll play that for you now.

NIXON Hello.

SC Hello, sir. How are you?

NIXON Fine. Is this Pete Conrad?

SC Yes, sir.

NIXON Nice to talk - -

SC We all are listening.

NIXON Nice to talk to you again and Commander Kerwin and Commander Weitz are there with you, right?

SC Yes, sir.

NIXON Well, I just wanted you to know that everybody here has been following what you've been doing, and I guess the way I could summarize this project is that it proves that - that man still matters. With all the - with all the technical machines and so forth that you had to work with, it proved that when there were difficulties that the ingenuity of men in space is what really mattered. And you've really made us all very proud with the way you've handled some difficult problems in this project.

SC Thank you, sir.

NIXON And you'll be returning on the 22nd, I understand.

SC Yes, sir, we're, of course, - counting different days. That's - I think day 173. We're working day 168.

NIXON I see. Well, I'll - I'll be out in California at that time, and after you've splashed down I hope to welcome the three of you. Perhaps when you do maybe you can come up to San Clemente and we can say hello.

SC That's wonderful, sir. I'm sitting here talking to you right now, coming up on the Coast of California looking out the window at a full Moon.

NIXON Is that right? Let me also say this, that this is Father's Day. I understand that each of you is a father, so congratulations.

SC Thank you, sir.

NIXON Fine, and we'll look forward to seeing you after you get back.

SC Yes, sir. Thank you very much for the call.

NIXON Thank you, Pete. Bye.

PAO This is Skylab Control. That ends the tape of the conversation between the President and the Skylab crew.

SL-II MC1124/2

Time: 10:00 CDT, 24:15:00 GMT
6/17/73

That pass, in which this conversation took place, began at Goldstone about 9:05 a.m. Central daylight time. Skylab is still 42 minutes away from acquisition at Goldstone on this revolution. We'll bring the line back up just prior to acquisition there. At 15 hours 2 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1125/1

Time: 10:19 CDT, 24:15:19 GMT
6/17/73

PAO Skylab Control at 15 hours 19 minutes and 4 seconds Greenwich mean time. We'd like to announce that at 10:30 a.m. central daylight time, there will be play of the television of the TV tour made last night by the crew. This is in TV, Scene list number 26, TV26. This'll take place at 10:30 in the building 1 briefing room on monitors. The tour includes the orbital workshop, multiple docking adapter, and airlock module of the spacecraft. It does not include the wardroom area that was shown on the previous TV tour. This will be replayed at 11:30 a.m. central daylight time. That's TV tour will be replayed at 11:30 a.m. and at that time we will also play television Scene list number 15, which includes sleeping arrangements aboard the spacecraft, the trash disposal area and the triangle shoes. Does not include the shower that was normally listed as part as that, because that was a, - had to be deleted because of time requirements aboard the spacecraft. At 11:30 we will have astronaut Bruce McCandless available in the briefing room to discuss the television and he will act as narrator for both the TV tour and for TV Scene list number 15. So at 10:30 you may see the TV tour. At 11:30 the TV tour and TV 15, a sleep and trash disposal and triangle shoe, parts of the spacecraft. This is Skylab Control at 20 minutes and 33 seconds after the hour.

END OF TAPE

SL-11 MC-1126/1

Time: 10:41 CDT, 24:15:41 GMT

6/17/73

PAO Skylab Control at 15 hours 41 minutes 16 seconds Greenwich mean time. At the present time we're 3-1/2 minutes from acquisition of signal. And we're going to give you a brief report on today's activities. So far the crew is well on schedule, in fact Science Pilot Joseph Kerwin and Pilot Paul Weitz, have begun their M131 experiment a bit early today. They indicated earlier to the biomedical people that M131 could be, begun ahead of schedule. It was originally scheduled to begin at 12:28, but they did begin earlier than that. Only one problem has occurred during the day and that was a problem with the retraction of S073, which is the gegenschein zodiacal light experiment. An experiment which measures the background light of the universe, and also light that occurs in the area of the zodiac. S073 which is extended on an 18-foot boom from the solar, no the antisolar scientific airlock of the spacecraft, was, attempted to withdraw that, the crew member Paul Weitz attempted to withdraw S073 today from the antisolar scientific airlock, that's the scientific airlock that sticks out the opposite side of the spacecraft from the parasol that protects it from the sun. When he attempted to retract that, using computer procedures, it failed to retract. He then went to, what is called manual control, it's actually an electronic control panel, and attempted to retract it in that method. He succeeded in retracting it most of the 18 feet that it had to be brought back, but the photometer head that sticks out at right angles, right angles from the main pole, was not retracted into the proper position. In order to bring it back inside he banged it against the side of the orbital workshop, and it did, it was gently banged. It was believed it was a gentle tap, but it was enough to bring it back into alignment, so he could bring it back in. Indications now from the corollary experiments officer here in mission control, are that they may have to test that to make sure it's still operating properly, although they're fairly confident that it is. That will not be used again, S073, which also is used for another experiment on measuring contaminates in the atmosphere around the spacecraft, will not be used again during Skylab II, it will be used in the following manned mission, the next manned mission uses it. They will have to use the pole however. Otherwise everything is going on schedule. The commander has had a busy day at the Apollo telescope mount. And there has also been some word from Dr. Kerwin there. We're now having acquisition of signal coming up at the Goldstone tracking station on the coast of the United States in California. This is Skylab Control at 44 minutes, remaining live for air-to-ground.

END OF TAPE

SL-II MC-1127/1

Time: 11:00 CDT, 24:16:05 GMT
6/17/73

PAO Skylab Control at 16 hours 5 minutes and 18 seconds Greenwich mean time. We are coming up on acquisition of signal at the Vanguard tracking ship, in approximately 1 minute. We will stay live for air-to-ground from Vanguard. This is Skylab Control staying live for air-to-ground.

CC Skylab, Houston. AOS Vanguard 10 minutes.
SC Roger, Houston.

CC And we are doing a data recorder dump.
SC Hey, I'm not having very much luck with S056 today. It quits just about every time in ACTIVE 1 LONG, and it's just almost impossible to get it all the way through.

CC Roger. Understood that you did not want to go ahead and run it because of that?

SC Well, no. I can get pictures, but I don't get all of them, you know, it hangs up somewhere pretty nearly every time, that's all I get - can either get halfway through, or it hangs up on the first step through or something. The other thing is, as I made a comment on B channel that active region 37 and 41 is kind of difficult to figure out who is who, when you're doing some of these building blocks, so I'm using my prerogative of choosing and picking up here.

CC Roger. Copy.

SC Hey, Crip. We found that bag.

CC Okey-doke. Thank you.

SC (garble) It hasn't been transferred yet.

CC Ah-so.

SC Now, I'm watching. I just started ACTIVE 1

LONG right now.

CC Okay. Watching.

SC Well, at least you won't have to spend

next Sunday, I hope, in the MOCRs.

CC I'm told by Flight that some of them

will get to.

CC These poor guys got to man it all the

time.

SC I keep forgetting about the lab. You're

right.

SC Hey, Houston, SPT.

CC Go, SPT.

SC Roger. Regarding your general message

2425. I don't know what the item is, referred to in the second paragraph. I thought perhaps it was my relatives, but they're bigger than a breadbox. So maybe it's the change from my paycheck. Any rate, thank them for their good wishes and Happy Father's Day to my father.

CC Roger.

SL-II MC-1127/2

Time: 11:05 CDT, 24:16:05 GMT

6/17/73

SC And a Happy 89th Birthday to him, too.
CC Okay. I'll pass that on to Lee.
SC I'm not going to have to ride that bicycle on
day 29, the way this schedule's going.
CC That's affirm.
CC CDR, Houston. If you've got a minute,
you'll never believe it, but I've got a pad change for you on
SO19.
SC Oh, I believe it, it'd spoil my whole day,
if you didn't.
CC Okay. If the crew will do the, use the
actually on rotation now, is not what we had predicted it
to be and what we need to do is have you add 1 degree to all
rotations.
SC That's a good story, Crip. You ought to
stick with it.
CC I got to come up with a new one each time.
SC Consider it done.
CC Thank you.
SC SO19 PIs now on 25, today.
SC Tell him we're willing to serve even if it's
(garble).
CC Roger. I'm sure he'll be glad to hear
that.
SC Looks like you're hung up again, Houston.
In 56 that is.
CC Copy. We saw it.
CC Skylab, Houston. 1 minute till LOS.
Hawaii at 17:16. 1, 7, 1, 6.
SC What'd you say, Crip?
CC We're going to LOS. We'll have you again
in 1 hour, at 17:16.
SC Okay. We were just all chortling over
2516 Alfa.
PAO Skylab Control at 16 hours 17 minutes
32 seconds Greenwich mean time. We have lost signal at the
Vanguard tracking station at this time. And we do not expect
to acquire for 57 minutes and about 42 seconds. Our next
acquisition of signal on rev 491, will be at the Hawaiian
tracking station. We'll have a nearly overhead pass at
Hawaii. At this time we are preparing to replay the conver-
sation between President Nixon and Commander Pete Conrad.
That took place this morning between 9:05 and 9:10 Central
Daylight Time, as the spacecraft was acquired at Goldstone
tracking station. At that time the conversation was a pri-
vate one, it was held off of the loops. This is a replay
of the entire conversation which takes about 1 minute and
40 seconds. For of those who would like to record it, you
should have your recorders set now, here is a replay of the
conversation between the crew and President Nixon.

SL-II MC-1127/3

Time: 11:05 CDT, 24:16:05 GMT
6/17/73

NIXON

Hello.

SC

Hello, sir. How are you?

NIXON

Fine. Is this Pete Conrad?

SC

Yes, sir.

NIXON

Nice to talk - -

SC

Joe and Paul are listening.

NIXON

Nice to talk to you again, and Commander

Kerwin and Commander Weitz are there with you, right?

SC

Yes, sir.

NIXON

Well, I just wanted you to know that everybody here has been following what you've been doing, and I guess the way I can summarize this project is, that it proves that - that man still matters. With all the, - with all the technical machines and so forth that you had to work with, it proved that when there were difficulties that the ingenuity of men in space is what really matters. And you've really made us all very proud with the way you've handled some difficult problems in this project.

SC

Thank you, sir.

NIXON

And you'll be returning on the 22nd,

I understand.

SC

Yes, sir. We're, of course, - counting different days. That's - I think, day 173. We're working day 168.

NIXON

I see. Well, - I'll be out in California

at that time, and after you've splashed down I hope to welcome the three of you, perhaps when, you do maybe you can come up to San Clemente and we can say hello.

SC

That's wonderful, sir. I'm sitting here talking to you right now, coming up on the coast of California looking out the window at a full Moon.

NIXON

Is that right? Let me also say this,

that this is Father's Day. I understand each of you is a father, so congratulations.

SC

Thank you, sir.

NIXON

Fine and we'll look forward to seeing you after you get back.

SC

Yes, sir. Thank you very much for the call.

NIXON

Thank you, Pete. Bye.

PAO

Skylab Control. That is the conclusion of the message from the President to the crew of the first Skylab manned mission. This is Skylab Control, our next acquisition of signal is 55 minutes from now. Time now is 20 minutes and 28 seconds after the hour.

END OF TAPE

SL-II MC1128/1

Time: 11:25 CDY, 24:16:25 GMT
6/17/73

PAO Skylab Control at 16 hours 25 minutes and 41 seconds Greenwich mean time. We're just a little over 4 minutes from the replay of the television tour that was made last night by the Skylab crew. We will have astronaut Bruce McCandless, a member of the backup crew available to discuss the television while - while it's being replayed for those people who have monitors and in the building 1 small briefing room. Like to read you today's Father's Day messages that were sent up earlier on the teleprinter pad to the members of the crew. To Commander Pete Conrad from his wife and boys: Jane and boys will greet you at 21:14 through Ascension. That is to say they will be talking today at 4:14 p.m. Central daylight time from here in Mission Control to the crew. To the Science Pilot, Joe Kerwin: Happy Father's Day from all the Kerwin girls. Your present is smaller than a breadbox and contains more than 50 items. And to the Pilot, Paul Weitz: Happy Father's Day from all the kids. The family misses you and looks forward to your return. These messages were sent up on the teleprinter pad during the night, and there will be a conversation later today. We expect that to be open on the open line between Commander, Pete Conrad, and his wife and children here in Mission Control. We're now about 3 minutes from the beginning of that replay of the television tour, and also television 15 with Bruce McCandless in building 1 small briefing room. This is Skylab Control, still 48 minutes from the next acquisition of signal at the Hawaiian tracking station; 27 minutes and 26 seconds after the hour.

END OF TAPE

SL-II MC-1129/1

Time: 12:14 CDT, 24:17:14 GMT
6/17/73

PAO Skylab Control, we have acquisition of
signal at Hawaii.
CC Skylab, Houston, AOS Hawaii, 10 minutes.
SC Hello.
CC Hello.
SC Hey, Crip. Have a look at 56 again. It
doing, looks like it's just hung up.
CC Roger. Okay, Adam's looking at it.
CC CDR, Houston. Roger, we concur the 56 -
56 had hung up and (garble) that you start it again. And
we're suddenly had a rate gyro discompare in the Y-axis and
we'd like to get you to select rate gyros 2 and 3 in the
Y-axis. I can give you those DAS codes if you'd like them.
SC Go ahead.
CC Roger. That's 52015 for function code,
and data is 50024.
SC Okay.
SC It's done.
CC Roger.
CC Skylab, Houston, LOS in 1 minute. Vanguard
at 17:45, 1745 and we'll be doing a data recorder dump
at Vanguard.
SC Okay, what happened? The Y gyro get a
- drift compensation go out again?
CC It looked like it failed the integral test
right now. I guess the word has it that the gyro look pretty good.
We're taking a look at it.
SC Okay.
PAO Skylab Control, 17 hours 24 minutes
and 48 seconds Greenwich mean time. We have now lost signal
with - at the Hawaiian tracking station as the spacecraft
travels off to the southeast of Hawaii over the Pacific Ocean
approaching the Equator. We expect to hear again from the
crew at the next acquisition 20 minutes from now at the
Vanguard tracking ship. Until then this is Skylab Control,
25 minutes and 14 seconds after the hour.

END OF TAPE

SL-II MC-1130/1

Time: 12:43 CDT, 24:17:43 GMT
6/17/73

PAO Skylab Control at 17 hours 44 minutes and 3 seconds Greenwich mean time. At the present time we're approaching the Vanguard tracking ship's area of communication, and we should hear a call very shortly. We'll have acquisition of signal in approximately 50 seconds. We'll stay live for air-to-ground, Skylab Control.

CC Skylab, Houston. AOS, Vanguard, 9 minutes and we will be doing a data recorder dump.

SC Roger, Houston.

CC CDR, Houston. We indicate detector 6 and 7 on at this time and they should not be with this grading settings. Would you secure those, please?

SC Roger.

SC Hey, Houston. What I just did there was run that building block in separate (garble) with MIRROR AUTO RASTER not running, while I had ACTIVE 1 LONG going and I got 12 frames, and I quit anyhow.

CC Okay.

CC Skylab, Houston. LOS in 1 minute. Hawaii at 18:52, 1, 8, 5, 2.

SC Roger.

PAO Skylab Control at 17 hours 54 minutes and 53 seconds Greenwich mean time. We have lost our signal from the Vanguard tracking ship, as the spacecraft travels across the South Atlantic anomaly, where we sometimes have radio signals that, intervals that are undependable, so we don't know when we'll lose them. We did lose them by the time we had scheduled on our clock. Our next acquisition of signal is in 57 minutes and that will take place on rev 492, which we are just now beginning at the Hawaiian tracking station. At 55 minutes and 24 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-II MC1131/1
Time: 13:48 CDT, 24:18:48 GMT
6/17/73

PAO Skylab Control, at 18 hours 48 minutes and 19 seconds Greenwich mean time. At the present time the spacecraft is about 3 minutes and 49 seconds from acquisition of signal at Hawaii. At this time Commander, Pete Conrad, should be setting up the sample array detector mechanism in the scientific airlock. The sample array detector mechanism is for experiment TO27, the contamination measurement experiment. He should be setting that in the scientific airlock on the side of the orbital workshop's forward or upper compartment that faces away from the Sun. The mechanism is a box-like container with some 200 samples that will be exposed to contaminants in the nearly perfect vacuum outside the Skylab space station during the coming 2-1/2 days. The contamination measurement experiment was originally designed for use in the scientific airlock or SAL, S-A-L, on the Sun side of the workshop, but because that small airlock now contains the parasol used to shield the workshop from the Sun's rays, the opposite scientific airlock is being used. That's the antisolar scientific airlock is being used now. This modification does mean that no telemetry data will be available on minute by minute changes in the weights of the samples as they accumulate contaminants. The antisolar SAL is not wired for telemetry, for the quartz crystal microbalance which is included to measure changes in sample weights. At this time, we also expect to hear that the Pilot, Joseph - the Pilot, Paul Weitz should have - been finished with the M092/M171 run. He was subject today of the lower body negative pressure device experiment, where he sits in an iron lung-like container and has pressure pumped out from around his legs to see what changes take place in the fluid volume of the leg. And also, Pilot, Paul Weitz was the subject of the metabolic activity experiment which is associated with that lower body negative pressure device experiment. Metabolic activity is where the pilot rides the bicycle ergometer and has measurements made of various changes in physical condition. Those two things should have been completed with observer Dr. Joseph Kerwin watching Paul Weitz perform them. We expect now that we should be going into a period of presleep activity as the crew expects to go to sleep about 6 o'clock. They do began that presleep activity shortly. There is a television activity scheduled for a few minutes from now, as well. That will be the pilot's work. We - we have acquisition of signal at Hawaii and will remain live for air-to-ground.

CC Skylab, Houston. AOS Hawaii, 7 minutes.
SC Hello, Houston.
CC Roger.

SL-II MC1131/2

Time: 13:48 CDT, 24:18:48 GMT
6/17/73

SC Hey, we see by the flight plan that there are MO92's tomorrow for both the CDR and SPI; STP, and we were curious what the advance plans were. Not all of them, just the rest of this week. Are those the last runs or are there more scheduled?

CC Okay, we'll take a look at that. And for your information, Joe, we had you scheduled for a JOB 13 at - I believe it's around 14:00 tomorrow, and we've changed our mines, we're not going to do that. We're going to give you back that time and use it for housekeeping and shopping list.

SC You chickened out, huh?

CC Somebody did.

SC That's too bad, I was getting all reved up for it.

CC Okeydoke. And this morning you had a question on that item 2 on odds and ends about 82 A and B, and the - I guess in reviewing that we consider that whole section on 82 A and B incorrect. It is possible to get the calibration frames from the failed 82A camera, so would you just forget that was ever written down.

SC Okay, I'll go tear it from it's place of glory on the panel.

CC Okeydoke.

CC I'm being told that there will be a run on - on Paul on the day after the EVA for the medical, and that will be the last one.

SC Copy. Thank you.

SC Bnoooo. (laughter)

END OF TAPE

SL-II MC-1132/1

Time: 13:55 CDT, 24:18:55 GMT

6/17/73

CC

Skylab, Houston. LOS in 1 minute.
Vanguard at 19:24. 1, 9, 2, 4.

PAO

Skylab Control at 19 hours and 35 seconds Greenwich mean time. We have lost signal at the Hawaiian tracking station as the spacecraft passed over the horizon south of Hawaii. And we are now expecting to have our next acquisition of signal in 22 minutes and 53 seconds at the Vanguard tracking ship, in the South Atlantic Ocean. We have not yet gotten an official time for a change-of-shift briefing with off going Flight Director Milton Windler, who is still occupied with final plans for tomorrow's Flight Plan. He is handing over, also in the handingover procedure to Charles Lewis the on coming Flight Director, and his team of flight controllers. So we expect a change-of-shift briefing sometime later this afternoon, but we do not yet have a time for it and we will announce when one is available. During this last pass we had very little conversation. There was a discussion of the running of the experiments for tomorrow. There was, there will be two runs of the M092 and 171 experiments. One with commander Pete Conrad as the subject and later on Pete will be the observer as the subject is Joseph Kerwin, the Science Pilot. On the first one the pilot will be Paul Weitz, - Pilot Paul Weitz will be the observer on Conrad's run of M092/171. That's lower body negative pressure device and metabolic activity experiments, those are the same experiments that are being conducted this afternoon, with Pilot Paul Weitz as the subject and observer Joseph Kerwin. Crewmen just completed a short time ago, at the present time we expect that Pilot Paul Weitz is busy taking, making television pictures of the Body Mass Measurement device, which is a device for essentially getting weights of crew in a weightless condition. Crew members can sit in it and by using a series of balance and spring mechanisms it does register a mass measurement. And that mass measurement is used to give approximate weight or weight, equivalent of weight of the crew on Earth. And as we mentioned earlier T027 is being set up by the commander, - by Commander Pete Conrad in the antisolar scientific airlock. Following that we will have presleep activities. We do not expect to hear from the crew again for another 20 minutes, until we reach the Vanguard tracking station. This is Skylab Control at 2 minutes and 57 seconds after the hour.

END OF TAPE

SL-II MC-1133/1
Time: 14:23 CDT, 24:19:23 GMT
6/17/73

PAO Skylab Control at 19 hours 22 minutes
and 57 seconds Greenwich mean time. We're coming up on
acquisition of signal at the Vanguard tracking ship and we'll
stay live for air-to-ground from Vanguard.
CC Skylab, Houston. AOS at Vanguard for
9 minutes.

SC Hello, Night Bunch.
CC Hello there. I trust you guys have had
a good day?

SC Yes. We had a rather pleasant day. Com-
mander Weitz is currently filming the body mass measurement
device for you guys on TV. And things are kind of getting quiet.
CC Well, very good. It's been a pretty
day in Houston, too.

SC Has it, for a change, that's nice.
CC Yes. Today was definitely a top-down
day.

SC (Laughter)
JC You haven't lived yet, Houston, until
you've seen the Moon rise over Tierra del Fuego.
CC Gee, I'm sure that was pretty.
SC It sort of leaves you speechless.
SC 85's on tape for you, Houston.
CC Roger. Thank you.
CC Skylab, Houston. We're 1 minute from

LOS. We're going to see you at Ascension at 19:39. And we
are going to dump the data recorder at Ascension. There's
a couple of housekeeping items that the EGIL would like you to
do. One is in the command module to adjust the poly choke to
orifice 1 and that can be done anytime at your convenience.
The reason is that we're seeing a slow increase in PPO2 and
total cabin pressure and we think this'll help out that
situation. Also, when - - if we have data when we, - when we
have confirmed that we have good data over Ascension and if you
guys are not in the middle of supper we're going to ask one
of you to do a small reg pot adjust for us there. See you
at Ascension.

SC Okay. No sweat.
PAO Skylab Control at 19 hours 33 minutes
and 45 seconds Greenwich mean time. We have lost signal from
the Vanguard tracking ship in the Atlantic Ocean as the space-
craft begins its travel towards the, - on an ascending node.
on revolution number 493, traveling towards the coast of Africa
in a northeasterly direction. We expect to reach Ascension -
Ascension site within the next 5 minutes. And we will hear
air-to-ground from there. During this last pass we heard the
crewmembers announce that they could watch the moon rise over

SL-II MC-1133/2

Time: 14:23 CDT, 24:19:23 GMT

6/17/73

Tierra del Fuego. The spacecraft is still in daylight but apparently they had a view of the Moon across Tierra del Fuego which is on the southern tip of South America. At this time, Milton Windler is still busy working over the Flight Plan for the coming day and he is working as well, on EVA procedures for the following day. Those EVA procedures will include at this time - appear to include an inspection of the S052 occulting disk, that's the white light coronagraph and part of the Apollo telescope mounts, or telescope equipment. That occulting disk is used to block out the main body of the Sun, so that the corona can be studied in visible light. And it has some sort of a spec on it at this time it looks like, one bright spot that shows up on the occulting disk and it interferes with the study of the corona. The speck is believed to be about 1 millimeter in diameter, that is to say it's about 1/25th of an inch in diameter, so it's a very, very tiny speck, but it does have some interference with the experiment. For this reason the crew will be asked to inspect it and see if they can't brush it off with a tiny brush that they'll be carrying out. They also are going to test their repair skills on one of the battery modules that has been out and that's charger battery regulator module number 15. The instructions that are now in the planning stages are to have them take a whack at that with a hammer, that technique is not certain to work, but it does seem to be one that they're willing to try. And they have indicated that if it doesn't work the first time then they'll take a couple harder whacks with it. So they may make an attempt to repair one of the two charger battery regulator modules on the Apollo telescope mount solar array that are not now providing power to the spacecraft. Those two charger battery regulator modules, number 3 and number 15, could provide approximately 400 to 500 watts of power if they were operating. There's no terrific need for them, but because there is some deterioration in the solar array over a long period of time, it might be desirable to get those back in operation and, of course, it would add additional power for a longer mission. So they will take a whack with a hammer at that CBRM during the morning EVA on Tuesday. This is Skylab Control; we'll remain live for air-to-ground which we expect to hear in approximately 2 minutes from the Ascension tracking station. Remaining up for air-to-ground, Skylab Control at 36 minutes and 50 seconds after the hour.

END OF TAPE

SL-II MC1134/1

Time: 14:36 CDT, 24:19:36 GMT
6/17/73

CC Skylab, Houston, we're AOS at Ascension for the next 6 minutes. We have good data and if it's convenient to you, sometime during this pass we'd like to do this reg adjust. What we'd like in REG 1 ADJUST we'd like it 30 degrees, 30 degrees clockwise. On REG 2 we'd like 20 degrees clockwise, and the end in result of this probably will just about zero the meters for transferred current to the ATM. That's REG 1 30 degrees clockwise, REG 2, 20 clockwise.

SC Okay, I'll go up and do that, Dick. And I got a question for you on this general message regarding changes to the M509 Checklist. Is the next crew bringing up a new checklist for 509? If they are, then why are we making these changes to our checklist?

CC Roger, stand by and I'll get an answer.

SC And Dick, we'll put those EREP questions on B channel.

CC Okay, very good. Thank you.

SC And of the three evening questions, number 3 was the waste management compartment H2O dispenser clogged on the inlet or outlet side of the valve. We can't determine that by looking at the valves. And we're bringing the valves back.

CC Okay, we copied and thank you much.

SC And I'll let the good doctor answer questions 1 and 2 for you when he gets ready. He's cleaning up right now.

CC Okay.

SC Well, it's about 30 degrees on Bus 1 and 20 on Bus 2, which didn't quite make zero on the transfer, Dick.

CC Roger, stand by just a second.

CC PLT, Houston. We're happy with the REG adjust you made. Incidentally, on this EGIL tells me that the reason - what we're doing here is we're incrementally - incrementally changing the load sharing so we'll end up probably with one more REG adjust in preparation for the unmanned phase, and this is allowing us to look at the system with these different load sharing points for a day or so in between steps.

SC Yeah, okay. Thank you, glad to do it.

CC Roger.

CC Skylab, Houston. We're about 45 seconds from LOS. We're going to see you at - at Guam at 20:23. And in answer to your question about M509; we've run into some test problems in Denver with the batteries which I'm not sure whether or not you have been made aware of and what we think this message does is change your checklist so that we - you can do M509 checkout that we're asking you to do without

SL-11 MC1134/2

Time: 14:36 CDT, 24:19:36 GMT
6/17/73

making an interface to the onboard M509 batteries. The other half of the question about the SL3 and 4 crew, is they will be carrying up their own checklist. But we think that the checklist changes we're asking you to do are one time only, and they will support the checkout we're asking you to do. Over.

SC Okay. Thank you, sir.

CC Roger.

SC I don't have to make it to the cue card then, just to the checklist to support this checkout.

CC That's affirmative, Paul.

SC Okay.

PAO Skylab Control, at 19 hours 46 minutes and 48 seconds Greenwich mean time. We've lost signal now at the Ascension tracking station, and we do not expect to hear from the crew again until the Guam pass which is 36 minutes and 22 seconds from now. As was indicated earlier, at the Vanguard station Pilot, Paul Weitz completed his body mass measurement device filming. That's TV scenelist number 5. He has approximately - According to communication management display here in Mission Control, there are approximately 13 minutes on the video tape recorder and those will be dumped during the overnight period for return here to Houston. That body mass measurement dis - device was - is the one that's used to keep track of the approximate weights of the crew, measuring mass rather than weight because of course, they have no gravity there and gravity is an element that's required to gain weight. So the television was completed. They are now in the presleep activities which include eating dinner and a number of other things. And we do not expect to hear from them again until Guam. This is Skylab Control, at 47 minutes and 54 seconds at - Oh, let me remind you too that there is a change-of-shift briefing. We have an estimate now of the time. Flight Director Milt Windler, who is still working on EVA preparation pads for the crew - expects to be free at approximately 3:15. That's a very rough time, still at approximately 3:15 there will be a change of shift briefing in the building 1 small briefing room. This is Skylab Control at 48 minutes and 22 seconds after the hour.

END OF TAPE

SL-II MC-1135/1

Time: 15:21 CDT, 24:20:21 GMT
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PAO Skylab Control at 20 hours 21 minutes and 34 seconds Greenwich mean time. At the present time we're approaching the Guam tracking station. About 1 minute and 40 seconds from acquisition of signal at Guam. We will remain live at this point from air-to-ground. We have not yet gotten an announcement of the change-of-shift briefing. Changed but we do believe it will be approximately 3:30 and Flight Director Milton Windler still engaged in planning procedures for the Flight Plan for the next couple of days. So we have slipped that at 3:30 and we'll give you an announcement when Flight Director Milton Windler leaves the mission control center. We'll remain live at this point for air-to-ground from Guam.

CC Skylab, Houston. AOS, Guam for 4 minutes.

SC Roger.

SC Still with us, Houston?

CC Yes, sir.

SC I'm going to give you the food ADR. The CDR ate everything plus ten optional salts, plus 2 butter cookies. SPT ate everything, plus 1 butter cookie. The PLT ate everything, plus 7 optional salts.

CC Okay.

SC And the film for Day 168 is 16 millimeters in S073, retract at FT1 C1. 13 48 percent C110. Next one is M131 OGIMF, M092/171 and the film was shot up. C112, 00, C105. 35 millimeter C131, 03, C130, 67. 70 millimeter, CX06 103, no EREP.

CC Roger, Pete. And we're 1 minute from LOS. We're going to see you at Vanguard at 21:01. And anything left in the Evening Status Report that you don't get down here, we'll catch at Vanguard.

SC Okay. A1 is transporter 02 and in C112 00, C105. Transporter 03 in A2. And that is C106 18, C103. Transporter 06 in A3, C113 48, C110. And A4 is 05 with nothing, and C111 for takeup. Floating, 07 C109 66 white tag 03. Over.

CC Okay. Real fine, we got all that. We're about 10 seconds from LOS and we'll see you at the Vanguard.

SC See you at Vanguard.

PAO Skylab Control at 20 hours 28 minutes and 49 seconds Greenwich mean time. We have now lost signal from the Guam tracking station. We expect to acquire the spacecraft again within communication range of the Vanguard tracking ship in 31 minutes and 49 seconds. That was an unexpected status report from the crew of Skylab II. They normally would not give a status report this early in the evening, and for that reason they may be asked to repeat it later.

SL-II MC-1135/2

Time: 15:21 CDT, 24:20:21 GMT
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It's possible that some members of the ground team were not prepared for the status report. During the coming pass we expect that, at Ascension, this is following the Vanguard pass, we will have a conversation between Pete Conrad and his wife and children here on Father's Day. And that will come at Ascension at approximately 4:14 p.m. Central Daylight Time or 21:14 Greenwich mean time. At the beginning of the Ascension pass, at the beginning of the next revolution following 493 which is the revolution we're now in the process of completing. Following the Ascension pass we do not have an acquisition of signal again until Guam at which time there will be a private medical conference. We expect that the conversation between Pete Conrad and his wife and children will be on the open air-to-ground. They do have a right to private conversations, but Commander Conrad had indicated earlier that he does not desire private conversation. So we will have a conversation at Ascension with the wife and children and then a conversation, private medical conference at Guam tracking station on the pass immediately following Ascension. This is Skylab Control, 30 minutes and 20 seconds to acquisition and 30 minutes and 34 seconds after the hour.

END OF TAPE

SL-II MC1136/1

TimeL 15:34 CDT, 24:20:34 GMT
6/17/73

PAO Skylab Control, at 20 hours 34 minutes and 26 seconds Greenwich mean time. At this time flight director, offgoing flight director, Milt Windler has finally left the Mission Control Room and we believe he is enroute to Building 1 for a pres. conference which should begin in approximately 3 to 5 minutes. This is Skylab Control at 34 minutes and 45 seconds after the hour.

END OF TAPE

Family Talk--Conrad

Happy Father's Day

SL-II MC-1137/1

Time: 13:59 CDT 24:20:59 GMT

6/17/73

PAO Skylab Control at 20 hours 59 minutes and 6 seconds. We can now hear the warbler announcing acquisition of signal at Vanguard in the next minute and 40 seconds. And we will stay live for air to ground from Vanguard.

CC Skylab, Houston. AOS Vanguard for 11 minutes.

PLT Eleven, we must be going right over them huh?

CC Just about, that's right. I got a couple of notes here. One is we show that the star tracker was unlocked, the star is still Achernar, and outer gimbal to get a reacquisition, which we'd appreciate is plus 2125.

PLT Okay, plus 21 and a quarter. CDR is on the way, he needs a break.

CC Okay. And when CDR has a chance, we got everything, we listened to the tape of his evening status report at the last pass. And we need clarification of one item which is 35 millimeter frame quantity. The one we're interested in is Charlie India 30. We read it as 67, and we're wondering if that should be 57 or if not what? We need a clarification Charlie India 30.

CDR Yeah, it's 67. We've been getting up to 70 frames out of some of those.

CC Okay, understand. Thank you much.

CDR Did you say 2125 plus?

CC That's affirmative, plus 2125.

CDR So far it (garble). It's still plus 345 or so on the inner gimbal.

CC That's affirm, I didn't read you that one because esco said it didn't change, but it is plus 0345.

CDR It ain't there.

CC Roger. Stand by just a second please, I'll get right back to you.

CC CDR, Houston. When you went through plus 1900, 1900 on the outer gimbal we saw a real flash of a star presence. So, why don't you try that, plus 1900 outer gimbal.

CDR Very good, that got it.

CC Thank you Pete. Thank you very much.

CDR Saved by the bell.

CC Skylab, Houston. We're going to command up some rate gyro drift compensations and we need the DAS.

CDR You got it.

CC Roger.

CDR (Garble) are you guys through with the DAS?

CC Negative, we're not. Stand by please.

CDR Oh, okay. There's no problem.

CC Roger.

SL-11 MC-1137/2
Time: 15:59 CDT 24:20:59 GMT
6/17/73

CC Skylab Houston, we're through with the
DAS, it's yours again.

PLT It's been ours all the time, Houston, but
we just let you use it.

CC Roger.

CC Skylab, Houston. For the SPT, up at the
ATM. We noticed this morning that the fine Sun sensor
bias switch on the panel under attitude control was put to
out. And we prefer the switch to be in since it makes our
calculations for uplinking the pointing coordinates to you
a little bit easier. And so we'd like the fine Sun sensor
bias to in unless you put it out for some good reason that we
don't know about. And if you do, if you'll just let us know,
we'll make our planning accordingly.

SPT We'll put it in. I put it out to do
the two left coalignment and forgot to put it back in.

CC Okay, no problem. Thank you.

CC Skylab, Houston, we're about 30 seconds
from LOS. We're going to see you at Ascension at 21:14.
And Skylab, for the CDR, the family will be on the line at
Ascension. I will give you an AOS call, and they will be
upstairs, but it won't be a private line. But, I'll give
you an AOS call, and then just let you have the rest of that
pass. Out.

CDR Thank you.

PAO Skylab Control at 21 hours 12 minutes
and 12 seconds Greenwich mean time. We've lost signal at
the Vanguard tracking ship, and we expect to acquire signal
again at Ascension in about a minute and 47 seconds. At
that time, we should hear spacecraft communicator, Dick
Truly call the crew. He indicated just now, that he will
give them an acquisition signal call indicating that we have
communications with them. And at that time we will hear
Mrs. Conrad, who is located in an upstairs room in the
Mission Control Center. We will hear Mrs. Conrad and child-
ren talk to the Captain. This is Skylab Control, we will remain
live for air to ground at Ascension at approximately 1 min-
ute and 17 seconds.

END OF TAPE

SL-II MC-1138/1
Time: 16:13 CDT, 24:21:13 GMT
6/17/73

PAO Skylab Control. We're having troubles with our communications network, and that's the reason we've had no discussion.

CC Skylab, Houston. We're AOS at Ascension for the next 8 minutes. We're having a little antenna problem. How do you read?

SC Loud and clear.

CC Roger. Pete, I'll turn the rest of the pass over to Rusty and the Conrads who are upstairs. The next pass is Guam at 21:58 and it's - that's the medical conference. And I'll just be standing by the rest of the pass.

SC Okay.

MRS. CONRAD Hi.

CDR Happy Anniversary.

MRS. CONRAD Happy Anniversary to you and thank you for the red roses. You must have been thinking ahead?

CDR Huh?

MRS. CONRAD I said, "You were thinking ahead. You sent me 20 red roses."

CDR I know, but I wasn't thinking that far ahead. I ordered them from here by secret communicator.

MRS. CONRAD Oh, I see. (Laughter) Well, anyway, thank you. And here are the boys.

CDR Guys.

ANDREW Hi, Dad.

CDR Who's that? Andrew?

ANDREW Yeah, Chrissy is out at the ranch. Peter and Thomas are here.

CDR Andy?

ANDREW Yes, sir.

CDR How's it going? Did y'all race any time this month?

ANDREW Uh, Thomas did, but I didn't. My bike - I need new points.

CDR I see. I'll be back soon, and I'll fix it.

ANDREW Okay. Here's Tom.

THOMAS Dad.

CDR Go ahead.

THOMAS I raced 2 weeks ago. I raced Chrissy's bike and my bike. Didn't do nothing; just got tired out.

CDR I see. Ran out at Clover?

THOMAS Yes, sir.

CDR When did y'all come back from the ranch?

THOMAS Two days ago. I got my driver's license while we were in Uvalde.

CDR Very good. Congratulations. How about Peter? Is he down there?

SL-II MC-1138/2
Time: 16:13 CDT, 24:21:13 GMT
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THOMAS Yes. Here he is; just a second.
PETER How you doing, Dad?
CDR Fine. I thought maybe you'd be at
Uvalde.
PETER No, I think I ought to stay around and see
if I can earn a little money.
THOMAS Well, (garble) got stuck out at the ranch
for 3 days with us, so I don't think Peter's going to stay
out there too much more.
CDR I see.
BOYS Happy Father's Day.
CDR Say again.
BOYS Happy Father's Day.
CDR Thank you. Where's Chrissy?
PETER He's out at the ranch.
CDR Oh, he's at the ranch. I see. How's his
horse?
PETER Pretty good, I guess. He rides it every
day.
CDR Very good. Did they get the pool fixed?
ANDREW Yeah, it looks real nice, the (garble)
worked real good and hadn't had to vacuum it in 2-1/2 weeks.
It looks real, real good, water's real clear.
CDR Great. That's good. I'm sure you've used
it. What's the weather been like?
ANDREW Well, it flooded down here a couple of
days ago. Boattown, you know, the motorcycle place was all
under water and we weren't here, but it also flooded down at
the ranch.
MRS. CONRAD Both the rivers -
MRS. CONRAD Both the rivers came down and we were
stuck out there for 4 days.
CDR Well, that wasn't too bad, was it?
MRS. CONRAD No, wasn't bad at all, it was fun.
CDR If you think you've seen some big thunder
storms around there, you ought to see some of the ones we've
out here in the Pacific.
MRS. CONRAD Well, the day we had the floods was the
day you were photographing all those clouds, I guess, I forget
what day, when it was, one day last week.
CDR I remember that, that was one of our last
EREPS, He told us you had real bad rain.
MRS CONRAD Somebody say something.
PETER Dad, It's Peter. I got my report card the
other day.
CDR How'd you do?
PETER Passed everything. (garble)
CDR Very good. Did you get promoted?
PETER No, I'll get promoted next time.

SL-II MC-1138/3

Time: 16:13 CDT, 24:21:13 GMT
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CDR When do you have to go back for football?

PETER I don't know, they said they'd send me a letter, but I don't, I think they want me to play both ways next year and I think I might test them a little bit how much they want me to play football?

CDR Okay. Well, I think we're getting to the last phases. We start our EVA prep tomorrow night, for the EVA.

MRS. CONRAD Are you going to bed awful early, now?

CDR Yeah, we go to bed in another hour and a half.

MRS. CONRAD And then you get up at 2 o'clock the morning of splashdown?

CDR Uh, let me figure it out, right now we're going to get up at 2 o'clock in the morning and we get up even earlier than that on splashdown. That's why we've moved the bedtime up.

ANDREW Dad, how long after you splash - -

END OF TAPE

Talk Cont'd

SL-II MC-1139/1

Time: 16:20 CDT, 24:21:20 GMT
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CDR Get up at 2 o'clock in the morning and we're going to get up even earlier down on the splashdown. That's why we moved the bed time up.

CHILDREN Dad, how long after you splash down are you going to be back in Houston, where we can see you?

CDR Two days.

CHILDREN That's good. How about - How long after that do you get out of quarantine?

CDR Well, I think I can come home then. I can't see you guys until the end of 7 days. So that'll be 5 days.

CHILDREN Okay. When are you coming to Bermuda?

CDR Ah - Well, I don't know. I haven't seen the schedule, but hope I'll be going the 20th.

CHILDREN Okay.

MRS. CONRAD I wrote down about three things I was going to ask you, and I can't remember any of them, because I forgot to bring my list with - -

CDR Well, it probably wasn't too important.

MRS. CONRAD No, I don't think it was (laughter).

CDR I don't think I've lost too much weight, but our legs have all gotten skinnier.

MRS. CONRAD Well, you'll have to do some swimming or some jogging or something when you come home.

CDR No, Joe, thinks it's all fluid and it'll come right back.

MRS. CONRAD Rusty said they never were the best looking legs. (laughter).

CDR No, but they're the only super small ones up here right now.

MRS. CONRAD The only super what?

CDR Small ones up here right now.

CHILDREN When are you going to be able to race your Vega when you get back?

CDR Oh, not until after you guys go back to school.

CHILDREN Hey, dad.

CDR Go ahead.

CHILDREN I'm a bigger grown up now. I want you to know.

MRS. CONRAD Governor Dolf Brisco just signed the bill that 18 year olds are of age now.

CDR Good. We'll start charging him rent.

MRS. CONRAD (Laughter).

PLT Congratulations.

MRS. CONRAD Well, we have another minute, but what'll we say? (Laughter).

CHILDREN Hey, dad, have you all had another play-day since the movie we saw?

CDR Say, again, Thomas. You broke off.

THOMAS Have you had another play-day since we saw that movie where you all were floating around and everything?

CDR No.

SL-II MC-1139/2

Time: 16:20 CDT, 24:21:20 GMT
6/17/73

MRS. CONRAD Are you not going to take any days off again, now? You're too busy?

CDR Oh, right, no. We don't have any. Tomorrow night we start EVA prep and the next day is EVA and after that is two days of deactivation.

MRS. CONRAD Is Paul going to get the film or who's going to go after it?

CDR I'm going to get the film. Paul's going to work in my place in the SAS, and I'm going to go get the film and Joe's going to stay in.

CHILDREN How is it like, sleeping up there? Has your back been bothering you?

CDR Nope. Been sleeping pretty good.

MRS. CONRAD Have you been dreaming?

CDR Nope.

MRS. CONRAD Have you sure? Have you had your head wired, ever?

CDR No, just Joe. And it turns out he gets the same amount of sleep or partial sleep as he's been getting on the ground. So it's about the same, I guess.

CDR You still there?

MRS. CONRAD Yeah. We're still here. We have about 30 seconds.

CDR They said they had antenna problems, and I thought maybe you dropped out.

MRS. CONRAD Okay. Well, we'll see you in a week. Right?

CDR Okay. Be good. Bye.

MRS. CONRAD Okay. Bye bye.

CHILDREN Have a lot of fun.

CDR All righty.

PAO Skylab Control at 21 hours 25 minutes. We have lost signal at Ascension and we'll come up shortly to give you a brief resume of the conversation.

END OF TAPE

SL-II MC-1140/1

Time: 16:27 CDT, 24:21:27 GMT

6/17/73

PAO Skylab Control at 21 hours 27 minutes and 54 seconds Greenwich mean time. During that last pass at Ascension we did have some trouble with an antenna on the ground. Ground tracking station was not getting the proper reception for the first couple of minutes of the pass. That problem was solved, however, and we did have good signal for the remainder of the pass. Conversation was held on the open wire between Captain Pete Conrad, the Commander of the Skylab crew, and his wife and three children, Andrew, Tom, and Peter. Another boy was at - Crissy was at the ranch. The ranch is - the ranch belonged to Mrs. Conrad's parents at Uvalde, Texas. Uvalde. They have been out there vacationing during the period when we had rather heavy rains in the Houston area, and they indicated that they had been cut off for a period of time by flooding waters in the rivers around there, but no problem at the ranch at all. They've returned from Uvalde and they're back here in Houston, and were talking from the third floor of the Mission Control Center. Commander Conrad indicated that he would be the astronaut going out to get the film - participating in the EVA on Tuesday morning, with Paul Weitz, the Pilot. Joe Kerwin will stay inside - at one point he was asked if he was having trouble sleeping with a - with his head wired, and he did reply that he did not have his head wired during the period - Joe Kerwin, the Science Pilot, is the only one of the three crewmen who is required to wear any sort of monitoring device. He wears the M133 sleep monitoring helmet, which is a device with electrodes in it that record his sleep state. But Kerwin is the only one of the three crewmen who is required to wear that. There is no particular reason to wear one except to monitor sleep state, and that is an experiment being tested on the Science Pilot alone. We have some additional details on the EVA. Although we still do not have definite times. Most of the procedures in the extravehicular activity to be performed Tuesday morning will follow those listed in the flight plan. The indication is now that the CBRM will be the first activity - one of the early activities that will be done before the film exchange. That's a tapping operation to see if they can't get that charger battery regulator module back in operation. That's charger battery regulator module number 15. They will do that before the film exchange. Captain Conrad indicated, although we had believed earlier that possibly Paul Weitz would be doing the work that, he, himself will - the Captain will go out and retrieve the film. The TV camera operations are not yet definite. Skylab Commander indicated that he would possibly be interested in doing some television, but we've not yet gotten any details on whether that will be done inside or

SL-11 MC-1140/2
Time: 16:27 CDT, 24:21:27 GMT
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outside the spacecraft. Either one of those two possibilities is available. We also have no definite information on the patch of material that is being considered now for deployment. Before the return, during the EVA, they've considered placing a small piece of that dermal reflective material that's being used in the parasol that was developed here at Johnson Space Center. They are thinking of putting a small piece out and attaching it someplace on the spacecraft to study thermal effects on that over a long period of time, so it could be easily recovered. Right now that is still being considered. It is not a definite part of the plan, and it may be dropped from the EVA plan during the next day or two. That pretty much concludes the information we have available right now on the EVA. Most of this is still on an early planning stage and probably during the remainder of the night we'll undoubtedly bring that information up in the morning after 2:00 a.m. when the crew wakes up. During our next pass we have 26 minutes and 27 seconds to our acquisition of signal at Guam tracking station in the Pacific, and at that time we expect a private medical conference to be in progress. Should that private medical conference be concluded early in the pass, as it has been on the previous two days, we will hear a acquisition of signal call from Dick Truly, the spacecraft communicator here in Mission Control, and we may have some live air-to-ground at that point. So, at 25 minutes before the next acquisition of signal, and sometime longer than that before we hear from the crew again, this is Skylab Control, 32 minutes and 31 seconds after the hour.

END OF TAPE

SL-II MC-1141/1
Time: 16:57 CDT 24:21:57 GMT
6/17/73

PAO Skylab Control at 21 hours 57 minutes and 47 seconds Greenwich mean time. We're coming up on acquisition of signal at Guam tracking station. This pass is reserved for a private medical conference. However, should that medical conference be shorter than the full time of the pass, we will hear some discussion between Spacecraft Communicator Dick Truly and the crew of the first Skylab manned mission. We will stay live for air to ground should there be some later in the pass.

CDR Hello Houston, you there?
CC Skylab, Houston. Hello again, we're

at Guam for 7 minutes.

PLT I wish you would have that Adam guys take a look at the S6, will you please. When we came up in the Sun light, the door talkback stayed white. I hit the switch to close one time, but no change. I then hit it to open one time, and there has been no change. And that's as far as it has gone, we're awaiting your word.

CC Roger that. And I'll get it to you as soon as we think about that one.

PLT Okay.

CC Skylab, Houston. Indications on the ground is of the same as yours, that the door is neither closed. And we're continuing to look at it and we'll get back to you.

PLT All right.

PLT I suspect that it is mostly closed Dick, because the both adventures on the Berilium and aluminum are both listed as poor.

CC Roger.

CC Skylab, Houston. About the S056 door, we've got a crew malfunction procedure in the ATM malf book, under X-ray Kelly, number 8 Bravo. And what we'd like you to do if you can, is after Building Block 1 is complete to go ahead and start into that malf and keep up with which blocks you go through. And let us know probably at the next station how you came out. We've got about 1 minute to LOS. The next pass is at Vanguard at 22:38.

PLT Okay, Richard.

CC Thank you.

PLT That leads me immediately to block 5, which says carry your appetite door dry system.

CC Roger. Stand by just 1 second.

PLT Okay, I go block 1, Block 4, Block 5.

CC Roger, PLT. Request that doors 11.

PLT Okay.

CC Roger. And we'll see you at Vanguard.

SL-II MC-1141/2
Time: 16:57 CDT 24:21:57 GMT
6/17/73

PLT
PAO

Right.
Skylab Control at 22 hours 9 minutes and 17 seconds Greenwich mean time. We have lost signal at the Guam tracking station. There was time after the crowded medical conference for air to ground from the Mission Control, and from the Spacecraft Communicator Dick Truly. We will next acquire signal from the spacecraft at the Vanguard tracking ship, that's in 28 minutes and 34 seconds. At 9 minutes and 42 seconds after the hour, this is Skylab Control.

END OF TAPE

SL-II MC-1142/1

Time: 17:35 CDT 24:22:35 GMT
6/17/73

PAO Skylab Control at 22 hours 35 minutes and 54 seconds Greenwich mean time. At the present time we're approaching acquisition of signal at Vanguard tracking station in about 2 minutes and 11 seconds. The crew's day is nearly complete at this point. During the presleep hours this afternoon, both Science Officer, Joseph Kerwin, and crewman Paul Weitz have taken turns at the solar instrument panel, directing the battery of telescopes and other scientific devices used to study the energy emitted from the Sun. After taking a turn at the telescope, Dr. Kerwin took a final set of photographs of the bacteria and spore experiment, ED31, which is being conducted to determine the effects of a weightless environment with 1/3 Earth's atmospheric pressure and more than 3 times the percentage of oxygen, on the survival, growth, and mutation of bacteria. This experiment, under the direction of Principle Investigator Robert L. Staehle of Holly School in Rochester, New York, is one of several studies directed by high school students. After completing the photography today, that experiment and the equipment involved in it was stowed by Science Pilot Kerwin. Tonight the Science Pilot will be wearing the M133 sleep monitoring device that will keep track of his sleep states tonight and give immediate readings by telemetry here to medical officers on the ground. We have just received the surgeon's report, which indicates that Skylab Astronauts Conrad, Kerwin, and Weitz remain in vigorous good health and spirits, signed by Dr. Buchanan for Dr. Hawkins. This is Skylab Control remaining live for air to ground from Vanguard.

CC

Skylab Houston. Vanguard for 9 minutes.
Hey, are you ready for a status on the

PLT

S056 door?

CC

Go ahead.

PLT

In the door procedure, I completed the first two blocks, which as I remember the first thing you do is inhibit both motors. And when I enabled the primary motor, the talkback, the door talkback immediately went to gray, and I had a ready light. And that's where I left it, and I tried to run it. Of course it didn't run very well. Inactive went (garble) wrong after that. But other than that hang up, it is functioning normally now. But the talkback immediately went to gray. Another door was sitting there all the way open and 99 and 44 open waiting for something to tell us - give us (garble) talkback.

CC

Okay, Paul. Thank you much, and we'll think about that one.

SL-II MC-1143/3

Time: 17:57 CDT, 24:22:57 GMT

6/17/73

heard a good-night from spacecraft communicator, Dick Truly,
and do not expect to hear again from the crew. This is Skylab
Control signing off at 16 minutes and 5 seconds after the
hour, until 2:00 a.m. central daylight time.

END OF TAPE

SL-II MC-1143/2

Time: 17:57 CDT, 24:22:57 GMT

6/17/73

night's sleep.

CDR

Roger. Night, night.

PAO

Skylab Control at 23 hours 13 minutes

Greenwich mean time. The spacecraft has lost signal at Madrid and is now out of communication for the next 35 minutes. We do not expect to hear again from the crew. They have been given a good-night call from capsule communicator, spacecraft communicator, Dick Truly. Tomorrow will be another busy day for the three members of Skylab's first crew, as they have now gone to bed. Both Commander, Pete Conrad and Science Pilot Dr. Joseph Kerwin will be subjects in a pair of medical experiments. The first, M092, measures the movement of body fluids from the legs to the upper body, as the result of elimination of gravity. The second, M171, studies the metabolism of crew members as they exercise vigorously on a special bicycle equipped with several medical sensors. This measures the total work done and the effect on the crew members. In addition to several hours of work at the control panel of the solar telescope and it's associated equipment, the crew will prepare for it's third excursion outside the spacecraft early Tuesday morning. Nearly two hours, 12:30 p.m. to 2:15 p.m central daylight time, are given to advance preparations for a two and a half hour extravehicular activity by Commander Conrad and Pilot Paul Weitz. Early tomorrow morning before most of us are awake, at 2:22 a.m. central daylight time, shortly after the crew awakens, a new record will be set for the longest manned mission in space. That record, 570 hours and 22 minutes, is now held by the Soviet Union's Soyuz 11 space station, which was in orbit in June of 1971, two years ago. We will surpass that record at 2:22 a.m. The spacecraft will be on ground track number three and it's 500th revolution above the Earth, and will be located approximately near the Congo in Africa. That will set a new record at 570 hours and 22 minutes. A record for the longest duration space mission. At this time the members of the Skylab crew have orbited the Earth a total of 400 and - over 400 revolutions above the Earth, and have traveled a total of 9,500,000 miles. There were calculating yesterday morning, the total amount of pay they would get if they were paid 12 cents a mile, as government members on travel and when they were told that it would total more than a million dollars, they indicated they were coming back. They thought that was enough. But Skylab crew will not be back until Friday morning. They will be splashing down approximately 8:50 a.m. central daylight time in a location 700 miles southwest of San Diego, California. At this time, the United States ship, Ticonderoga, an aircraft carrier, is on station. They're practicing for that splashdown. We have

SL-II MC-1143/1

Time: 17:57 CDT, 24:22:57 GMT
6/17/73

PAO Skylab Control at 22 hours 57 minutes and 14 seconds Greenwich mean time. We are one minute and 16 seconds from acquisition of signal at the Canary Island tracking station. At this time we will stay alive for air-to-ground. We should have an explanation, I expect, of the S056 problem. That appears now to have been solved as we passed into darkness over at Vanguard. The crew indicated that they have completed the malfunction procedures, and discovered that they had, in fact, successfully opened the door of the S056 experiment. That's the X-ray telescope experiment, and then they were instructed to manually close that door. Apparently the motor fouled up or a reason that's not known here on the ground or by the crew, but that problem has not been solved and they are preparing for sleep. And we have 34 seconds to acquisition of signal at the Canary Island tracking station. We'll remain live for air-to-ground.

CC Skylab, Houston. We're AOS at Canary and Madrid for 12 minutes.

PLT (Garble)

CC Roger, and we're going to be - G&S is commanding here to set up the configuration for the rate gyros this evening. The gyro Y-1 is now looking real stable, so we're going to put Y-1 and Y-2 control - into control, so you ought to select Y-1/Y-2 for their proper onboard monitoring. And we're also showing the TACS ENABLED, and we think it probably ought to be inhibited per our earlier agreement about leaving TACS INHIBIT.

PLT Okay.

CC Roger.

CDR I'm trying to think when they got ENABLED. It should have been shut off for the last umpteen days.

CDR (garble) trim burn this morning and we never turned it back off. Thank you.

CC Roger.

CDR Say, what did that 9 seconds do for us anyhow? Is anybody around that can answer that?

CDR I figured they got all of a theth of a foot per second, (garble).

CC CDR, Houston, the very honest answer is that the FIDOs are at home, and we will give you a straight answer on the TRIM burn, and while we planned it that way, and how it came out tomorrow, if that's okay.

CDR Yeah, (garble) Sure.

CC Roger.

CC Skylab, Houston we're going LOS here in Madrid, and we'll see you guys in the morning. Have a good

SLAB HOT GOOD MORNING

SL-II MC-1144/1
Time: 02:00 CDT, 25:07:00 GMT
6/18/73

PAO Good morning, this is Skylab Control at 7 hours Greenwich mean time. Skylab is over the United States, north of the Great Lakes at this time, in a short LOS between the Texas tracking station and the Bermuda station. Cap Com Astronaut Henry Hartsfield plans to send a wake-up call to the crew at Bermuda. Today's flight plan includes a scheduled 3 hours and 51 minutes of Apollo telescope mount operation by Science Pilot, Joe Kerwin and Pilot, Paul Weitz. It also includes some medical experiment runs - M092, the lower body negative pressure and the M171, the metabolic studies, with Joe Kerwin as the subject, Pete Conrad as the observer. Then in the early afternoon, about 2 hours has been set aside for preliminary preparations for tomorrow's extravehicular activity to change out the film canisters in the Apollo telescope mount. We're a few seconds away from acquisition at Bermuda. We'll stand by for the wake-up call.

CC Skylab, Houston; good morning.
CDR Good morning.
SPT Where were you calling from?
CC Where am I? Oh, I'm at Houston still.
SPT Houston!
CC How's everything up there this morning?
CDR I don't know. We just woke up. My little buzzer went off about 2 minutes before you called.
CC Roger, we've got about 4 more minutes with you here through Bermuda.
CDR Okay.
CC Skylab, Houston. About 1 minute to LOS.
We'll be coming up on Canaries at 12 with a recorder dump.
SPT Okay.
PAO This is Skylab Control at 7 hours 8 minutes Greenwich mean time. Bermuda has loss of signal with Skylab. In about 2-1/2 minutes the station at the Canary Islands will acquire. We'll stay up through this short LOS, and wait for acquisition at Canaries.

END OF TAPE

LONGEST SPACE FLT

SL-11 MC-1145/1
Time: 02:09 CDT 25:07:09 GMT
6/18/73

CC Skylab Houston, through Canary 9-1/2 minutes.

CC Skylab Houston. All your pads should be on board now.

CC Skylab Houston. Before you get too wrapped up in that flight plan, I've got a few words about it here. You've probably noticed on there that we had a JOP 13 scheduled. We're going to have to scrub that. We scrubbed it for several reasons. First off the premission (garble) target data wasn't available to us because of the delayed launch. So we were unable to select a suitable target, generate the pads and get a run in the simulator last night. Also the scheduling of the canister fine Sun sensor, acquisition Sun sensor alignment compilation that we normally do on (garble) 4 was impossible so that we could get the required pointing accuracy. I guess to sum it up, we just couldn't get it all pulled together with enough confidence to ensure the success of the JOP, so we thought the best thing to do was to scrub it. And we give you our apologies. In place of it, we will be doing open housekeeping.

SPT Understand.

CC Skylab Houston, 1 minute to LOS. We'll be coming up on Honeysuckle at 56. And in about 2 minutes from now, at 7:22 you will become the new world champs for longest space flight.

SPT Okay, thanks for the note, cause actually we are all up at BMMD halfway getting weighed.

CC Roger, copy.

PAO This is Skylab Control at 7 hours 22 minutes Greenwich mean time. Canary Island tracking station has had loss of signal. The next station to acquire will be Honeysuckle in about 34 minutes. Skylab has now equaled, and in just about a few more seconds will exceed the Soyuz 11 record for manned space flight. As you heard Capcom Hartsfield inform the crew that they will be the new world's champions for manned space flight. Duration of the Soyuz 11 mission was 570 hours 22 minutes. The Skylab 11 crew has now exceeded that mark. The Commander Pete Conrad has now logged 1,077 hours and 10 minutes of space flight. We'll come back up just prior to the Honeysuckle pass. At 7 hours 24 minutes, this is Skylab Control.

END OF TAPE

DECE TO SEND CREW'S RESPECTS & GOOD LUCK TO COSMONAUTS

SL-II MC-1146/1

Time: 02:55 CDT, 25:07:55 GMT
6/18/73

PAO This is Skylab Control 7 hours 55 minutes Greenwich mean time. Skylab coming up on acquisition at the Honeysuckle, Australia tracking station. The crew having breakfast and in the post sleep activities for the day. At the time Skylab exceeded the Soyuz 11 record for manned space flight, Skylab was over the country of Nigeria, the continent of Africa. We'll stand by for this pass through Honeysuckle.

CC Skylab, Houston through Honeysuckle 9 minutes.

PLT Roger.

CDR Hey, Hank. You still there?

CC Affirmative.

CDR About - having Tom Stafford or Deke relay to the Russian Cosmonauts our respects and, at this point, in our flight to them and their comrades and wish them good luck from us in the future.

CC Okay, I sure will, Pete.

CDR Thank you.

CC Skylab, Houston; 1 minute to LOS. Hawaii at 160.

PLT Okay.

PAO This is Skylab Control at 8 hours 6 minutes Greenwich mean time. Skylab is beyond the range of Honeysuckle now and we'll be acquired by the Hawaii station in about 9-1/2 minutes. During this pass, Skylab Commander, Pete Conrad requested that Johnson Space Center Director of Flight Crew Operations, Deke Slayton, or the Deputy Director, Brigadier General Thomas Stafford contact the Cosmonaut Corp in the Soviet Union pass on the Skylab 2's respect to the cosmonauts and their wishes to them for good luck in the future. -- This being on the occasion of Skylab crew exceeding the record of Soyuz 11 of 570 hours 22 minutes. The Soyuz 11 manned mission ended tragically, when because of a improperly secured hatch in the re-entry module. The three cosmonauts died during re-entry. We'll come back up just prior to Hawaii acquisition. At 8 hours 8 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1147/1
Time: 03:15 CDT 25:08:15 GMT
6/18/73

PAO This is Skylab Control at 8 hours 15 minutes Greenwich mean time. We're standing by for acquisition at Hawaii.

CC Skylab Houston. Through Hawaii 9-1/2 minutes.

PLT Roger Hank.

CC And Skylab I've got a little small changes to each one of your detail pads, and one addition to the remarks at the end of this flight plan.

PLT Go ahead.

CC Okay, for the CDR on his details, we want to delete the momentum inhibit at 13:20. And at 22:10 you see a reference to T003 filters. We'd like to pull out the filter 5 and move it up to 19:30, the rest of them remain at 22:10.

PLT Okay.

CC And for the SPT, we want to delete his ATM at 14:00. That's the - I believe that JOP 13. And for the PLT details, we want to delete the momentum enable at 15:00.

CDR Roger.

CC And, let's see, we've already deleted a JOP 13 in the flight plan, and replaced it with housekeeping general. And at this summary, we left out a South Atlantic anomaly. There is one of them at 13:41 to 14:11.

CDR Okay.

CC That's all of those. I do have one change to that 509 checklist. I can wait until later if you like.

PLT I'm going to go get the checklist right now.

PLT Go ahead Hank.

CC Okay, on page 16-1.

PLT Stand by.

PLT Okay.

CC To step 2 add mode direct, and the reason we're doing this is to configure the (garble) deplete valve.

PLT (garble) C and D power off, mode direct.

CC Roger. And that's all the changes. I do have one comment for the CDR. He's got housekeeping 60 Tango set up, it's the ATM C and D filter replacement. The checklist says that the filters are in A2 in the CSM, but if you have already done the day 25 transfer or if they are done - they'll be in a - say again?

CDR They're in A 5. I know where they are, I get the transfers.

SL-11 MC-1147/2

Time: 03:15 CDT 25:08:15 GMT

6/18/73

CC

Okay. I just wanted to remind you.

CDR

Hank, to the people that are going to analyze the stowage, or analyze those parts where they come back. The one that was changed out initially will have one red stripe of tape on it, and the one this morning will have two stripes of red tape on it. Okay?

CC

Okay, copy.

END OF TAPE

SL-11 MC-1148/1

Time: 03:20 CDT 25:08:20 GMT

6/18/73

CC Skylab, Houston. One minute to LOS. Goldstone at 28.

PAO This is Skylab Control at 8 hours and 26 minutes Greenwich mean time. Hawaii has lost its signal. However, Goldstone will pick up Skylab in about a minute and a half. We'll stay up through this short LOS. In the control center, Flight Director, Neil Hutchinson is briefing his replacement. The on-coming Flight Director is Milton Windler. On the Cap Com console, Astronaut Bob Crippen will relieve Astronaut Hank Hartsfield. Neil Hutchinson estimates that his Change-of-shift news conference will begin at 4:00 a.m. central daylight time in the JSC news center. Four a.m. central daylight for the Change-of-shift news conference with Flight Director Neil Hutchinson. We'll stand by for acquisition at Goldstone and Skylab's pass over the United States.

CC Skylab, Houston through Goldstone 6-1/2 minutes.

PLT Roger.

CC Skylab, Houston in 1 minute to LOS. Bermuda at 39.

PLT Okay.

END OF TAPE

SL-II MC-1149/1

Time: 03:36 CDT 25:08:36 GMT
6/18/73

PAO This is Skylab Control at 8 hours 36 minutes Greenwich mean time. Skylab has passed out of range of Goldstone's antennas, but Bermuda will be picking up Skylab in just under 3 minutes. We'll keep the line up during this short LOS.

CC Skylab, Houston, through Bermuda 8-1/2 minutes.

CDR Roger, Houston.

CC Skylab, Houston. 1 minute to LOS. Canaries at 49.

PLT Roger.

PAO This is Skylab Control at 8 hours 48 minutes Greenwich mean time. Bermuda has loss of signal. Canaries will acquire in less than a minute. And then there is overlapping coverage from Ascension on this pass. We'll continue to stand by.

CC Skylab, Houston, AOS Canaries, or correction, Canaries for 16 minutes.

PLT Morning, Crip.

CC Morning, Sir.

END OF TAPE

SL-II MC-1150/1

Time: 03:50 CDT, 25:08:50 GMT

6/18/73

SPT Good morning, Crip.
CC Morning, sir.
CDR Hello, Crip.
CC Good morning, Pete.
CC You guys sound rather jovial this morning.
CDR Yeah, I think when we start EVA prep to-
night we figure it's like a count down.
CC I believe so. I didn't know whether you
were going to sound that jovial after that EVA message we
sent you.
CDR It's just the PLT. He's grumbling.
PLT I haven't read it yet. Maybe I'll give
you another call after I read it.
CC Okay doke.
CDR Housekeeping 60 Tango is complete - both
the filters are back in A-5.
CC Copy.
CDR Day 148 1 is the day - 169th.
SPT Houston, SPT. May I INHIBIT momentum
dump early? Namely, now?
CC Stand by 1.
CC You're GO on that Joe.
SPT Thank you.
CDR Say, Crip, can you get them to explain to
me what's a DAA2/1?
CDR Now what's in this survey - the 2 minute sur-
vey? What do you want me to do?
CC Stand by 1, Pete.
CC CDR, Houston.
CDR Go ahead.
CC Okay, on page 6-2 of your evaluation ex-
periments checklist, in the third paragraph down, it addresses
a back-to-back survey. And that's what this is.
CDR I got it. Back to back. Okay.
CC Okay, is that enough info, Pete?
CDR That's enough.
PAO This is Skylab Control at 8 hours 57 minutes
Greenwich mean time. Flight Director Neil Hutchinson is
ready to begin the Change-of-shift briefing in the news center.
We'll take the line down now and tape any remaining air-to-
ground communications during the Ascension pass - play that
back at the end of the news conference. To repeat: the
Change-of-shift news conference with Flight Director Neil
Hutchinson, is ready to begin in the JSC news center. At
08:58 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1151/1
Time: 04:12 CDT 25:09:11 GMT
6/18/73

PAO This is Skylab Control at 9 hours 13 minutes Greenwich mean time. Skylab is 18 minutes away from acquisition at Carnarvon, and there is overlapping coverage from the Honeysuckle station. We accumulated 2 minutes 18 seconds of conversation at Ascension on tape during the change of shift news conference. We'll play that tape now.

CC Skylab Houston. We're into the Ascension portion of our pass, and we are doing a data recorder dump at this pass.

CDR Hey, Crip, CDR.

CC Go CDR.

CDR On page 6-3 on that checklist, would you verify that by just doing speaker (garble) power on up and intercom key on that in fact will voice record on DSC or on system B, do I have to do anything to make sure I get this data on 63 rear is that a recording the command module before and I just want to verify that.

CC Okay, we're checking it.

CDR Thank you.

CC CDR Houston. We can confirm that will record okay in the command module on the DSC. And the DSC is on, and you probably found that the log for that back to back survey was on page 9-8 of the CSM systems checklist.

CDR Yeah, I know where that is. I think maybe I got to take the PLT intercom switch to intercom.

CC I've got that ICOM checking.

CDR Now that will put it on B channel you know for the SWS but I'm not sure what goes on (garble).

CC Roger. What you're trying to do is record it on the DSC.

CDR Okay, (garble)

CDR Are you there, Houston.

CC Affirm.

CDR The other thing I'd like to ask you is on these places by the window, if they want the sensor located, do they want the window covers on or the window covers off?

CC We'll check that.

CDR Yeah, our configuration, of course, right now you want the cover on.

CC We'd like the window covers removed if we could.

CDR Okay, take the window covers off.

CC Skylab, Houston. LOS in 1 minute. Carnarvon at 9:32, 09:32.

CDR Okay, be there.

SL-II MC-1151/2
Time: 04:12 CDT 25:09:12 GMT
. /18/73

PAO This is Skylab Control. That's the end
of the tape. Skylab still 15-1/2 minutes away from Carnarvon.
We'll come back up then. At 9 hours 16 minutes, this is
Skylab Control.

END OF TAPE

AURORA AUSTRALIAS

SL-II MC-1152/1
Time: 04:30 CDT, 25:09:30 GMT
6/18/73

PAO This is Skylab Control at 9 hours 30 minutes Greenwich mean time. We're in contact at Carnarvon.
PLT Refrigeration set for the detail parameter
is real time for comparison?
CC If it's not too much trouble, we'd appreciate it.

PLT Okay, I'm just finishing cleaning up in the head. I'm captain today. I'll be with you in about 2 minutes.

CC Fine and dandy.
CDR We've got the double feature on right now, Crip. We got the Moon. Right underneath it we have another night, - I guess you gotta call it.
CC Sounds beautiful. Nice big full moon.
CDR Yep, it's getting a little lopsided. It was full a day or so ago. This is great ice cream weather tonight. Aurora Australis I've been told by my more scientific compatriote.

CC Fantastic.
CC What color are the Southern Lights?
CDR Say again.
CC What color are they? Just white?
CDR No, they're kind of greenish.
CDR Very pale, pale green.
CDR Say, another thing for you to put into the hopper today. The ground has been strangely silet about the TV. We of course can't put it out. The S073, - that's already added to EVA checklist, but I'd like them to know what they'd like me to do with it.

CC Pete, I didn't really get all of that.
Are you talking about the TV for EVA?
CDR Yeah.
CDR Did you get my last "yes"?
CC Say again.
CDR I say the answer to that was yes.
CC Rog. I'll try to get the latest dope on it right now.

CDR Okay.
PLT Okay, Crip. Are you ready for the refrigeration system (garble)?

CC Rog. Go ahead.
PLT I'll give you TCS first. All right?
CC Go.
PLT Workshop temperature indicates 76; pressure about 5.4, duct fall in 1 is - I indicated, about 520, and 510 in 2, and 3 in that 550.
PLT On the refrigeration system - the freezer started. The heat sink outlet - oh, I forgot, wait a minute.

SL-11 MC-1152/2

Time: 04:30 CDT, 25:09:30 GMT

6/18/73

PLT Mila Heat sink outlet was minus 18. The
(garble) freezer indicates about minus 13. The wardroom freezer -
1 indicates minus 14, 2, minus 11. The stowage freezers 1
showed minus 8, 2, minus 8, 3, minus 6. And the (garble)
primary 1 inlet 342. The food (garble) 41. The (garble)
number 1 reads 44, 2 reads 45, 3 reads 44. All the pumps
in AUTO and I remember that does it. Is that right?

CC That does it. Thank you very much. Ap-
preciate it, Paul.

PLT Roger.

CC CDR, Houston.

CDR Say again.

CC Rog. Regarding the TV. I guess - it's
our understanding that you have offered to take the TV out-
side. We're putting it as strictly optional on your part.
We do have a message down here that we can send you up re-
garding the procedures for taking it outside. If you do
not want to take it outside and you want EV-3 to use it in-
side at the STS area, that would be fine also.

CDR Okay, send us the message for taking it
outside, and we'll smoke that over today while we're organizing
the lock and figuring out what we're going to do with it.

CC Okay, we'll take a look at it. Also, re-
garding the EVA procedures. We would think that it would
be wise, perhaps to go over those this afternoon - -

END OF TAPE

SL-11 ME-1153/1

Time: 04:37 CDT 25:09:37 GMT
6/18/73

CC - - we'll take a look at it. Also regarding the EVA procedures, we would think that it would be wise perhaps to go over those this afternoon over the air. I would like to propose some time in your - at the end of your pre EVA prep. We have about 3 passes in there, starting at about 18:10. How would you take to discussing it during those periods?

SPT

That's fine.

CC

Okay, we'll get the proper people lined

up.

CC

Skylab Houston. LOS in 1 minute. Hawaii

at 09:56, 50.

CDR

Roger.

PAO

This is Skylab Control at 9 hours 40 minutes Greenwich mean time. Honeysuckle has had loss of signal. Skylab will next be acquired by Hawaii in about 15 minutes. There was a discussion on this pass concerning the use of television for tomorrow's extra vehicular activity. Pete Conrad was informed that it was optional with the crew whether to take the camera outside or have Joe Kerwin operate it from inside the vehicle through the windows in the multiple docking adapter in the command module. He reported that they will consider taking it outside, and today, and come up with an answer later whether it will be an inside or an outside television transmission. We'll come back up just prior to the Hawaii pass. At 9 hours 41 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1154/1

Time: 04:54 CDT 25:09:54 GMT
6/18/73

PAO This is Skylab Control at 9 hours 54 minutes Greenwich mean time. Skylab coming up within range of Hawaii now. The duration of this contact will be about 4 minutes. We'll stand by.

CC Skylab Houston, AOS Hawaii 4 minutes.

CC PLT Houston. If you man the ATM console, I've got a SAS update for you.

PLT Okay. I'm not there, yet. I'm still making changes to EVA checklist.

CC You may not make it up there at that rate. No sweat, when you get a chance I can give them to you, - or I can give them to you over the states.

PLT Okay. Let's do that, Crip. I got a couple more to make here, then I'll slither on up.

CC Okey-doke.

PLT Tell you one thing, I'm going to this EVA Checklist back with us.

CC I've got one down here that should look pretty much like that one.

PLT I hope you can figure out what we're doing then.

CC That's why I want Rusty to come in this afternoon.

SC And this clock is counting on D008.

CC Roger.

CC Skylab, Houston. 1 minute until LOS. We'll have you again at Goldstone at 10:08, 10:08.

CC PLT, Houston. Are you saving, are you making note, of the message headers so that we can ensure that you have received all of them?

SC Negative.

SC You still there, let me give you a quick rundown on what I've got.

CC Okay. I don't really think we're going to have time for them. Why don't we wait and try to get that later, if we can, Paul?

SC Okay, because I've been cutting and pasting and throwing away the scraps as I've been going, Crip.

CC Okay. We're just trying to figure out how we could go over them and make sure you had all the changes.

SC I suggest you pick out the important changes and ask me if I saw them and incorporated them.

CC Okay.

SC That's for the next flight to work on. How to handle that message traffic, cause we need some other

SL-II MC-1154/2

Time: 04:54 CDT, 25:09:54 GMT
6/18/73

stuff up here to do it with.

CC

Roger.

PAO This is Skylab Control at 10 hours 1
minute Greenwich mean time. Hawaii has loss of signal. We'll
pick up Goldstone in about 6 minutes. At 10 hours 1 minute
Greenwich mean time, this is Skylab Control.

END OF TAPE

LIVE ATM

SL-11 MC-1155/1

Time: 05:05 CDT 25:10:05 GMT

5/18/73

PAO This is Skylab Control at 10 hours 5 minutes Greenwich mean time. Skylab coming up beginning a pass over the United States with initial acquisition at Goldstone. Pete Conrad involved with D008. He's measuring radiation in the spacecraft. Pilot Paul Weitz should be beginning the first Apollo telescope mount run of the day. And the Science Pilot Jce Kerwin is calibrating the body mass measurement device. We'll stand by for the stateside pass.

CC Skylab, Houston. We're AOS, Goldstone, for 6 minutes.

SC Okay, Crip. We'll be looking at the (garble) as soon as I get (garble).

CC Rog. There's no big hurry. Not very exciting update.

SC Okay, go ahead with the changes to the pad, Bob.

CC Rog. It's just an update. The solar activity has been low. Three subflares have been reported, none with X-rays, from active regions 37, 43, and a new active region 47, which is located at 26 slant 1.0. That's where the subflares have been from.

SC Okay, thank you. Ready for the TV down-link now?

CC Standby 1 on that. And we do have small surges from active region 47, and filament 82 has been active, and appears to be slowly dissipating. And Paul it'll be six minutes before we're ready for the TV. We're going to get that over Mila.

PLT Okay.

CC Skylab, Houston. One minute 'til LOS. We'll have - drop you out for a couple minutes and have you again at 14.

PLT Okay, I got a flare alarm here. It's just barely slipping up over the - what we got set on it, but I don't see anything anywhere. Might be a little something in active region 37, I guess.

CC Okay, we're looking at it. You're up to the vicinity of the Horn, also, it appears.

PLT Okay, we're going to (garble) 43, here. I was reading it wrong.

PLT Right.

PAO This is Skylab Control at 10 hours 13 minutes Greenwich mean time. Goldstone has loss of signal and there's about a minute and a half gap between Goldstone and the Texas station. We did have a couple of minutes of real-time Apollo telescope mount television from the Goldstone station. We expect to receive some more real-time ATM television from the Merritt Island tracking station. And we'll be acquiring at Merrit Island in about a minute. We'll stand by.

END OF TAPE

SL-II MC-1156/1

Time: 05:13 CDT, 25:10:13 GMT

6/18/73

CC Skylab, Houston. We're AOS over Miami for about 10 minutes. And PJ, we blew it. You were in the horn, that's why you had the alarm.

SC Okay.

SC Tell me when they're ready, and I'll start doing the TV downlink that Pete (garble).

CC Roger.

CC Okay, Paul. We're receiving TV now, you can go ahead and go through your sequence.

CC Uh, Paul, we're having a little problem with our TV, could you hold up on your sequence for about 30 seconds, I'll give you a GO (garble).

SC Okay.

CC And PJ, while you were looking at that white light coronagraph, it was, - it should be obvious to you where that piece of contamination is that we were talking about.

SC Yeah, I see it.

SC And Bob, why don't you have 'em work up what o'clock position that is, with me looking in there from the foot restraints.

CC Will do.

SC Thank you.

CC Okay, PJ. We're ready for you to commence the TV sequence once more.

SC Okay.

SC Hey, Crip. You guys get your signal independent of ours, is that right? In other words, our settings on our monitor have no effect over those TV pictures you get on the ground, is that correct?

CC Your selection is - your selection of monitor is what we get.

SC I understand that. I'm talking about the contrast and brightness adjustments on the monitor itself.

CC That should not have any effect, that only controls your monitor.

SC Okay.

SC Houston, I'm going to go ahead and enable MOMENTUM DUMP now. Is that okay?

CC Stand by. You're GO for enabling.

SC Okay.

CC Skylab, Houston. LOS in 1 minute. Ascension at 10:36, 36.

SC Roger.

SC Haven't you got startracker update enabled?

CC I'll check that; we had it disabled last night.

SL-II MC- 1156/2
Time: 05:13 CDT, 25:10:13 GMT
6/18/73

SC I figured that. I was bent over to (garble)
and this (garble) didn't look bad.
SC I'm looking for aster now.
CC Okay. The word is that we do have it
disabled and you need to enable it, I guess.
SC Okay.
CC That's both control and update.
SC All right.
PAO This is Skylab Control at 10 hours and
27 minutes Greenwich mean time. Bermuda has loss of signal.
Skylab will next be acquired by the Ascension Island tracking
station in about 7-1/2 minutes. At 10 hours 28 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1157/1

Time: 05:33 CDT, 25:10:33 GMT
6/18/73

PAO This is Skylab Control at 10 hours 33 minutes Greenwich mean time. Skylab coming up on acquisition at the Ascension Island station. We'll stand by.

CC Skylab, Houston. AOS, Ascension for 5 minutes.

SC Roger.

CC PLT, Houston. We show that the new Z update is not enabled at this time. Would you like to do it, or would you like us to do it?

SC It worked.

CC Roger.

SC How's that look?

CC That looks good.

SC That's good. I couldn't remember if I keyed in ENABLE or INHIBIT.

CC Okay. It's enabled now.

SC I sure like this system.

CC I'm glad you're fond of it.

CC SPT, Houston. If you have a moment, I'd like to talk about one of your housekeeping periods. If not I'll get you at next station pass.

SC Okay. If you don't have to, Crip, that's good, because he's still tied up with the (garble) cal.

CC Roger.

SC This is another fun thing.

CC Thought you'd like that.

SC Did you call SPT?

CC Uh, SPT, Houston. Roger. If you've got a minute I wanted to tell you about this housekeeping period you have coming up prior to your ATM run. We wanted you to run a little condensate tank MALF for us. If not I can tell you about it over Carnarvon.

SC I'll talk to you at Carnarvon, Crip.

CC Okay.

CC SPT, no need to acknowledge, but there is a teleprinter pad regarding this MALF procedure in the teleprinter at this time and we'll talk about it later.

CC Skylab, Houston. 1 minute till LOS. Carnarvon at 11:06, at 06, and we'll be doing a data recorder dump at Carnarvon.

SC Roger.

PAO This is Skylab Control at 10 hours 41 minutes Greenwich mean time. Ascension has loss of signal. And Skylab will come within range of the Carnarvon station in about 24 minutes. At 10 hours 41 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1158/1
Time: 06:04 CDT 25:11:04 GMT
6/18/73

PAO This is Skylab Control, 11 hours 4 minutes
Greenwich mean time. Skylab coming up within range now of
the Carnarvon, Australia, tracking station. We'll stand by.
CC Skylab, Houston. AOS Carnarvon, 10 minutes.
CDR They took the - the SPT's doing the tele-
vision thing, he'll talk to you about that at the next station,
if possible.

CC Roger.
SPT Houston, SPT.
CC Go, SPT.
SPT Okay, the - TV 28 is on tape and
go ahead with your comments about the kind of tape (garble).
CC Okay, if you had a chance to pick up the
procedure yet, Joe?

SPT To pick it up, yes, to look at it, no.
CC Okay, basically, it's two paragraphs, 1
and 2. We would like to have you perform paragraph 1 anytime
within the next - this housekeeping period you're in right now.
And then we'd like to monitor it for a while, and we'll give
you a GO, and if it's required to do paragraph 2.

SPT Okay.
CC Okay. Right at the end of paragraph 1,
it talks about monitoring the tank Delta-P for 15 minutes,
that's not required of you, we'll go ahead and monitor here
from the ground.

SPT Okay.
CC And also, right at the end - after the
monitoring it talks about condensate tank water valve fill.
We'll hold that for paragraph 2.

SPT Got it.
CC And while I'm talking to you about it,
you'll notice if you read on ahead in paragraph 2 that it
requires using the water servicing umbilical, so you might
think ahead about using that if it's necessary. If we did
paragraph 2, we'd try to pick it up at that housekeeping per-
iod right after your ATM pass.

SPT Roger.

END OF TAPE

SL-II MC-1159/1

Time: 06:12 CDT, 25:11:12 GMT
6/18/73

CC Skylab, Houston. We're about 30 seconds
from LOS. See you over Guam at 11:20, 20.

SC

Roger.

PAO This is Skylab Control at 11 hours 17
minutes Greenwich mean time. Carnarvon has had loss of signal.
Skylab will be within range of the Guam station in about
2 minutes. We'll keep the line up for Guam acquisition.

CC

Skylab, Houston. AOS, Guam, 10 minutes,
10 minutes.

SC

Roger, Houston. This is the SPT. I've
completed the first part of that procedure. That tank was
empty, for all intents and purposes, and the bladder didn't
move. And the Delta-P was 4.4 and it stayed there and you're
in configuration.

CC

Okay. Thank you, Joe.

PAO This is Skylab Control. Conrad and Weitz
are involved in the lower body negative pressure and metabolic
activity experiments at this time. Pete Conrad is the
subject and Paul Weitz, the observer.

PAO

Those experiments will be repeated later
in the day with Weitz as the subject, I beg your pardon, with
Kerwin as the subject and Conrad as the observer.

END OF TAPE

SL-II MC-1160/1

Time: 06:27 CDT 25:11:27 GMT
6/18/73

CC Skylab, Houston. One minute 'til LOS,
Goldstone, at 45, 11:45.

PAO This is Skylab Control. Guam has loss of
signal. Skylab will be within range of the Goldstone, California,
station in about 15 minutes. At 11 hours 30 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1161/1
Time: 06:43 CDT, 25:11:43 GMT
6/18/73

PAO This is Skylab Control at 11 hours 43
minutes Greenwich mean time. Skylab coming within range
now of the Goldstone tracking station. We'll stand by.
CC Skylab, Houston. AOS, Goldstone, 17
minutes.

SC Roger.
CC SPT, for your information, we were
sitting here enjoying your show and tell of the IMSS this
morning, and the voice that we got through Goldstone is
very good. However, looking at it through Texas it's kind
of garbled and so according to our original plan, we're
going to rewind and dump it again through Goldstone. So,
we'll have it all with good voice quality.

SC Okay. Thank you.

END OF TAPE

SL-II MC-1162/1

Time: 06:57 CDT 24:11:57 GMT

6/18/73

CC SPT, Houston. No need to acknowledge this, but on our little test on the condensate tank indicates that it looks pretty tight to us, and there's no apparent leakage, so we're going to go ahead and check out that QD, which calls for you to go into paragraph 2. And following your ATM pass, we'd like you to go ahead and proceed with that, down through probably, the part where you put the cap on the QD, because we do expect the QD itself to leak since it has previously. Just wanted to remind you, you do need to take the condensate water valve to FILL before proceeding into paragraph 2.

SPT

Okay. I knew you would.

CC

Skylab, Houston. We're 1 minute from LOS.

We'll have you again at Carnarvon at 12:45, 45.

SPT

Roger.

PAO

This is Skylab Control at 12 hours 3 minutes Greenwich mean time. Bermuda has loss of signal. The next station to acquire Skylab will be Carnarvon in 42 minutes. During this pass over the United States, the television that Joe Kerwin taped earlier today of Dr. Kerwin showing and describing the medical facilities in the workshop was dumped. We'll come back up just prior to acquisition at Carnarvon. At 12 hours 3 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1163/1

Time: 07:43 CDT, 25:12:43 GMT
6/18/73

PAO This is Skylab Control at 12 hours 43 minutes Greenwich mean time. The tracking station at Carnarvon is about to acquire Skylab. We'll stand by for that pass.

CC Skylab, Houston. AOS, Carnarvon, 7 minutes.

SC Okay, Crip. Let me give you a list of the pages on that EVA Checklist change, that I got.

CC Okay.

SC I'm doing it because I assume that's what you want, is that right?

CC Well, if it's okay with you, I think we might be just as well off, just going over those in total this afternoon at that suggested time when we've got Rusty in here. But, I can go ahead and take them again.

SC All right. I got a couple of other questions.

CC Go.

SC First, scheduled this afternoon for an M509 checkout. I'm assuming that that is 509 (garble) checkout session 13 of the 509 Checklist. Is that right?

CC We're verifying that right now.

SC Okay, and the film people are a little mixed up in our drawer A configuration. Just a minute.

SC Let me know when you're ready to copy about the film configurations, which I'm looking at the film thread pad for this morning, Crip.

CC Okay. Why don't you go ahead.

SC Okay. Film wise we got bumped up to you last night. And transporter 05, which is in A4, was loaded yesterday per the pad, with Charlie India 14. And you notice that today's pad calls for Charlie India 14 in A1 on transporter 02. Today's pad says leave transporter 5 empty, but I'm leaving transporter 2 empty. So all you got to do on today's film thread pad is to delete CharlieIndia14 for 02, and put it down on transporter 5 and that's the way the drawer is right now.

CC Okay. Believe we got all that.

SC Okay. Pretty easy to read today's film thread pad.

CC Okay. Regarding the M509 Checkout. The word I've got is you're supposed to be doing pages 13-2 through 13-9.

SC Wait a minute, wait a minute.

CC Okye-doke.

SC I assume that somebody thinks that came up, huh?

SL-II MC-1163/2

Time: 07:43 CDT, 25:12:43 GMT

6/18/73

CC Well I would assume so. But I'd have to
go back and check the paperwork.

SC Okay. (Garble) I'll write it down, but I
haven't seen it yet, that's why I asked.

CC Okay. It probably wasn't very clear.

SC Okay. Go ahead with those page numbers.

CC It's 13-2 through 13-9. 15-7 and 16-1
through 16-4.

SC Okay. 13-2 through 9, 15 that's 15-7,
and 16, 16-1 through -4.

CC Roger.

SC Okay.

SC Houston, SPT.

CC Go, SPT.

SC I must be doing this procedure wrong, Crip,
on the condensate tank because I'm not getting a leak. I have
the QD disconnected in panel 393, and it's been that way for
12 minutes and the pressure is still the same. If I, if I hack
it for 15 minutes, what do I do, just quit and reconfigure?

CC Stand by on that. Can you verify that
you did open the water valve to FILL?

SC Yep.

CC We'd like to set on it for awhile, Joe,
and take a look at it. First time we've disconnected and not
had it go down.

SC I know. It's the first time you've had
the SPT do it. That's pretty sulky.

CC No comment.

PAO This is Skylab Control at 12 hours 51
minutes Greenwich mean time. Skylab beyond the range of the
Carnarvon station. Guam will acquire in about 8 minutes. The
M09 experiment that was being discussed with the ground by
Paul Weitz, is the Astronaut Maneuvering Equipment. Weitz
will checkout that equipment at 14:30 Greenwich mean time,
a 30 minute period in the Flight Plan for him to checkout
the equipment. There's no - -

END OF TAPE

SL-II MC-1164/2
Time: 07:53 CDT 25:12:53
6/18/73

PAO There's no plan at present to actually
utilize that experiment on this mission. We'll come back up
just prior to acquisition at Guam. At 12 hours 52 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1165/1

Time: 07:58 CDT, 25:12:58 GMT

6/18/73

PAO This is Skylab Control at 12 hours 58 minutes
Greenwich mean time. We're standing by for acquisition at
Guam.

CC Skylab, Houston. We're AOS over Guam
for about 4 minutes. Sorry I lost you without a LOS call.

SC Okay.

CC SPT, Houston.

SPT Go ahead.

CC Roger, Joe. On that condensate holding
tank. Like to understand once more, you said you did not
cap it, is that correct?

SPT That is correct.

CC Okay. It looks good, and as you're
observing, the DELTA-P is holding and - just another confusing data
point for us. We don't understand it. It looks like it's
working good now, though. At your convenience, you may
go ahead and reconnect that at panel 393.

SPT I just turn the heater on, I suppose, huh?

CC That's affirm.

SPT Okay.

CC Skylab, Houston. We're about 30 seconds
from LOS. We'll have you again at Goldstone at 13:22, 22.
And we will be doing the data recorder dump over Goldstone.

SC Still there, Houston?

CC Affirmative.

SC When we get around to discussing the EVA
checklist, one thing that I would like to discuss, then or to
get an answer then, is do you still want to use the ah - other
(garble) on powerdown the DCS pad, and all the lights in the
workshop for the EVA prep?

CC We'll check it for you.

PAO This is Skylab Control, 13 hours 5 minutes
Greenwich mean time. Guam has lost signal now. Goldstone
will pick up Skylab in about 16 minutes. We'll be back up
then. At 13 hours, 5 minutes this is Skylab Control.

END OF TAPE

SL-II MC-1166/1

Time: 08:19 CDT, 25:13:19 GMT
6/18/73

PAO This is Skylab Control at 13 hours 19
minutes Greenwich mean time. Skylab coming up within range
of the tracking station at Goldstone, California now. We'll
stand by.

CC Skylab, Houston. We're AOS Goldstone
for about 15 minutes.

SC Roger.

END OF TAPE

SL-II MC-1167/1

Time: 08:28 CDT 25:13:28 GMT
6/18/73

CC Skylab, Houston. One minute til LOS.
We'll have you again at Vanguard at 47, 13:47.

SC

Think you do.

PAO

This is Skylab Control at 13 hours 36 minutes Greenwich mean time. Skylab is out of contact with the Merritt Island, Florida station now. We'll go down over South America during this pass, and the next station to acquire will be the tracking ship Vanguard in about 10 minutes. At 13 hours 37 minutes, this is Skylab Control.

END OF TAPE

NO POWER DOWN FOR THE EVA

SL-IY MC-1168/1

Time: 08:44 CDT 25:13:44 GMT
6/18/73

PAO This is Skylab Control at 13 hours 44 minutes Greenwich mean time. Skylab about to be acquired by the Vanguard Tracking Ship. We'll stand by.

CC CDR, the PLT had a question earlier. I can go ahead and clarify it now, we'll elaborate this afternoon during your pre-EVA stuff, but it is not our intent to go through any power-down kind of operations like we did for your last ZVA.

PLT

Roger.

CC

Skylab, Houston. We're 1 minute til LOS. We'll have you again over Goldstone at 15:02, 15:02, nice long LOS.

SC

Okay.

PAO

This is Skylab Control at 13 hours 56 minutes Greenwich mean time. The Vanguard has loss of signal with Skylab. At a long LOS now. The next station to acquire Skylab will be Goldstone in 1 hour and 4 minutes. At 13 hours 57 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1169/1

Time: 09:59 CDT, 25:14:39 GMT
6/18/73

PAO This is Skylab Control at 14 hours 59 minutes Greenwich mean time. Skylab coming up on acquisition at Goldstone, now, after a long LOS. Out of contact for an hour and 4 minutes since leaving the Vanguard. Pete Conrad and Joe Kerwin will shortly begin runs on the M092 and the M171 experiments, the lower body negative pressure and the metabolic activity, with Kerwin as the subject and Conrad as the observer. The Pilot Paul Weitz is now in the midst of conducting ATM operations, Apollo Telescope Mount. We'll stand by for the pass through Goldstone, it will be a fairly short pass, not quite 5 minutes as Skylab slices through a portion of the acquisition range of Goldstone and does not contact any of the other United States tracking stations during this pass. We'll stand by.

CC Skylab, Houston. We're AOS, Goldstone for about 5 minutes.

CDR Roger, Houston. Housekeeping 7-Bravo complete. Yuck.

CC Roger. 7-Bravo complete.

CC Is the PLT available, please?

PLT Yes.

CC Could I ask you a couple of questions, like have you completed the 509, if so we're going to go ahead and dump the experiment recorders?

PLT Yes, I have, I just finished it.

CC Very good. Thank you, sir. Another note, in this session coming up on the ATM you should finish off the 82-Bravo film. So, go ahead and run it, finish it up, and everybody else running on the ATM today can disregard the 82B stuff.

PLT Okay. There's no harm in just letting it go sub zero, huh?

PLT No harm.

PLT Okay.

CC Also, today it's your housekeeping period following the ATM at 15:48. We'd like you to do the housekeeping 7-Delta there, that's the water reservoir checks.

PLT Okay.

CC Thank you.

PLT Say, Crip. What time's the EVA? What time are we supposed to have that hatch open tomorrow? Do you know?

CC Stand by 1.

CC 11:40 Zulu.

PLT 1 1 4 0 Z. Okay. Thank you.

PLT Say, Crip. We don't need an answer right now, but we've got to know for the EVA tomorrow, what canister

SL-II MC- 1169/2

Time: 09:59 CDT, 25:14:59 GMT
6/18/73

roll you want in prior to EVA? We've got a change there, that I suspect is left over from the last EVA, so they could get the S054 door. I want to know what do we want for canister roll? So, we can change our checklist accordingly.

CC Roger. We'll check that out for you,
Paul.

PLT Okay. (garble) ATM, the checklist is down in the wardroom. I don't know what page it's on.
CC Okay. Paul, while I've got you here, we've got a no/close no/open zone, there should be a white flag indication for you on S056 for the door. I guess you had this problem last night and also, the walf for that is on page 11-16, is X-ray Kelly, S056 8 Bravo.

CC We'll have LOS in about 50 seconds. We'll see you again over Vanguard at 15:24, 2 4. And we'll be doing a data recorder dump at the same time.

PLT Okay, Crip. Doing 8 Bravo, like I did last night, leads you immediately to door 1, which I've done now.

PAO This is Skylab Control at 15 hours 6 minutes Greenwich mean time. Skylab has passed out of range of Goldstone antennae. Next station to acquire will be Vanguard in 16 and 1/2 minutes. At 15 hours 7 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1170/1

Time: 10:22 CDT, 25:15:22 GMT

6/18/73

PAO Skylab Control at 15 hours 22 minutes and 6 seconds Greenwich mean time. We are approaching acquisition of signal at Vanguard Tracking Ship. And we will stand by for live air-to-ground.

PAO We have acquisition of signal at Vanguard.
CC Skylab, Houston; AOS Vanguard 10 minutes.

And we'll be doing a data recorder dump.

SC Roger, Bob. (Garble) (Music).

CC Sorry, Paul. I was unable to read you then.

SC (garble).

CC Copy.

SC Also, the results on that 56 door were just the same as last night, (garble)

SC I didn't have to catch my SCAN SPEC (garble), and I blew it anyway. Results on the X-ray Tele - yeah, X-ray Tele door were the same as last night. As soon as you stoke in that (garble), you know what it is. It's (garble) to the door sink. And immediately the door duct (garble) goes (garble), and you get a READY light.

CC Roger.

CC PLT, Houston. We are indicating that that door is still closed, which is in opposition to what your flag is going to be saying there. What you need to do is go ahead and try to command the door OPEN once more.

SC Should I do it while it's operating? I've got to operate now, and it's coming through the filters. You want me to do that now, or wait until it's finished with this sequence?

SC Oh, I see. So you say we got finished through that door - the whole door sequence.

CC Okay. We need you to go ahead and try to open the doors and start the sequence over, if you can.

SC You don't think they're open?

CC We don't think they're open - 56 is open, that is.

SC You want me to stop this sequence, then.

CC That's affirm.

SC Oh, ho. Why do you guys keep inadvertently disabling that door for us?

CC (Chuckle) More of 56's strange EMT problems, I suppose. We don't know the answer to that right now, Paul. We're looking at it and we are indicating the door's open, now.

SC Okay.

CC Paul, regarding those BET - doors talkback when you enable the motors like that, the talk back will give you a wrong indication, and you still need to go ahead and cycle the door to the position you want, to get a correct one.

SC That's what I just figured out, Crip.

SL-II MC-1170/2

Time: 10:22 CDT, 25:15:22 GMT
6/18/73

SC Now hear this, now hear this throughout
the ship, the SPT has just started his last LBNP run.
MCC (garble)
CC Skylab, Houston; about 1 minute until
LOS. See you again at Hawaii at 16:33, 1, 6, 3, 3.
SC Roger.
PAO Skylab Control at 15 hours, 34 minutes,
and 26 seconds Greenwich mean time. We have lost signal at
the Vanguard Tracking Station, and will not reacquire for
57 minutes and 54 seconds when we will hear from the crew of
Skylab-II at the Hawaiian Tracking Station. This is Skylab
Control at 34 minutes and 44 seconds after the hour.

END OF TAPE

-II MC-1171/1

Time: 11:31 CDT 25:16:31 GMT
6/18/73

PAO Skylab Control, we have air-to-ground
from Hawaii, and we'll stay live for air-to-ground.
CC Skylab, Houston. AOS, Hawaii, 8 minutes.
PLT Roger.
PLT Houston, what's the earliest you can pick
up this TV downlink?

CC Copy.
PLT Hello, Houston, Skylab.
CC Go. I'm still picking up - -
PLT What's the earliest they can - we can
figure to get the TV downlink?

PLT Let me tell you why I asked. I'd kind of
like to get that 4 limb core a line out of the way before
sunset. I think I'm running a little ahead right now, and
if you can get it early, I'll ship it to you early. If you
can't I'll put it on tape. How's that?

CC Okay, we're checking on that right now,
Paul.

PLT Okay.
CC PJ, you can go ahead and put it on the

MTR for us.

PLT Okay.
CC PLT, Houston. No need to acknowledge,
but we have three teleprinter pads sitting in your teleprinter
now, all concerned with the EVA and at your first opportunity
you might want to pull them out.

PLT Okay.
CC And be advised, all of those items are of
low priority. That did include the TV by the way.

PLT Okay.
CC Skylab, Houston. One minute til LOS.
See you again at Vanguard at 17:02, that's 02. And we'll be
doing a data recorder dump at Vanguard.

PLT (garble)

PAO Skylab Control at 16 hours 41 minutes and
9 seconds Greenwich mean time. We have lost signal now at
the Hawaiian tracking station, and do not expect to acquire
the spacecraft again until we reach Vanguard tracking ship
in about 20 minutes and 15 seconds. During this morning,
Skylab Commander Pete Conrad, and chief scientist Dr. Joseph
Kerwin were subjects in a pair of medical experiments. One
called M092 is to measure the transfer of body fluid from the
legs and lower extremities to the upper body in the absence
of gravity. The other, medical experiment M171, measures each
crew member's metabolism as he works peddling a bicycle.
Measurements are done with a series of medical instruments
attached to the bicycle, and the associated hardware. This
afternoon beginning about 12:30 p.m. central daylight time,

SL-II MC-1171/2

Time: 11:31 CDT 25:16:31 GMT
/18/73

a little less than an hour from now, the crew will begin advanced preparations for tomorrow's extravehicular activity. The EVA, with hatch-opening expected about 6:40 a.m. central daylight time, Tuesday, will take about 2-1/2 hours. This spacewalk will be the third during the first manned Skylab mission, the only such activity that was scheduled before the launch of America's first space station. The EVA tomorrow is primarily planned to retrieve film from several instruments on the solar telescope mount. This includes instruments to study the Sun, S052, 54, 56, 82A and H-Alpha 1, all a series of solar experiments. Film will be recovered from those by Pete Conrad, handed to Paul Weitz, and then returned and they will be replaced by individual film cassettes. In addition to that, there will be some minor repair work done by the crew. Some material that has accumulated on one of the experiments will have to be removed; it's interfering with an occulting disc on one of the solar telescope experiments. It's a device that's used to block out the Sun on a coronagraph experiment. And in addition to that, they may deploy a small piece of material from the solar sail, a separate piece of material to see what will happen under conditions in the Sunlight. Those are a couple of the things that are being considered now. An additional thing is a possibility that there may be some tapping done on CBRM number 15, that's a charger battery regulator module number 15. That CBRM is not operating. They feel that tapping on it with a hammer may get it back into operation. One of the objects of this afternoon's pre-EVA preparation is to get together the equipment necessary to make those corrections, including a small brush to brush off the piece of material on the occulting disk, and a hammer for pounding on that CBRM. Those are the main activities. This is a scheduled EVA, it was scheduled before the mission. There will be a number of EVAs done on future Skylab missions. These are planned EVAs, as distinct from those EVAs that had to be done to make repairs to the spacecraft. EVA scheduled for tomorrow morning beginning at 6:40 a.m., several hours after the crew awakens on their new sleep schedule. This is Skylab Control at 44 minutes and 35 seconds after the hour.

END OF TAPE

SL-II MC-1172/1

Time: 11:59 CDT, 25:16:59 GMT

18/73

PAO It's Greenwich mean time. We're 1 minute and 44 seconds from acquisition of signal at the Vanguard tracking ship. Like to make a correction on that previous statement on total number of spacewalks during this mission. There have been 3 extravehicular activities. Only two of those can correctly be termed spacewalks. The first was a standup extravehicular activity in the command module. Did not involve the crew member leaving the command module and for that reason cannot correctly be termed a spacewalk. So there have been three EVAs. The last two of those will be spacewalks, the last one being a spacewalk and the one to come tomorrow is also considered a spacewalk. We will stay live for air-to-ground from Vanguard tracking ship in approximately 1 minute.

CC Skylab, Houston. AOS over Vanguard for 10 minutes. Then we'll be doing a data recorder dump.

SC Okay.

SC Hey, Crip. On this message 2515Delta, odds and ends, it is talking about examining the CO detector samples. And I went and looked at those. And we are getting a little bit of discoloring in them, but there's nothing that would indicate more than 25 parts per million CO to start with. And most of them are better than that. And that is only at the extreme edge - each edge of the little yellow color block.

CC Okay. We copy that, Pete.

SC You'd think they'd been pretty much that way. They were that way at the beginning of the mission - some of them.

SC Yeah, I don't think they've changed since the beginning of the mission. And I noticed that and made a comment about that, I think, whenever I had to do CO sampling, which was up there like day 16 or - you know, somewhere in there.

CC Roger.

SC And I have duly located CBRM15 from the (garble) station and so marked the spot in my mind where to pound with the hammer.

CC Sorry, Pete, I missed most of your comment that time.

SC I said I have duly located CBRM number 15 from the (garble) work station and have placed in my mind the proper location to pound upon it with the hammer.

CC Yes. That's a (garble) procedure.

SC Right.

CC Skylab, Houston. We need the DAS for a couple of minutes to do a little tweak on a couple of rate gyros.

SC Okay. Go ahead.

L-II MC-1172/2

Time: 11:59 CDT, 25:16:59 GMT

6/18/73

CC Skylab, Houston. The DAS is yours once
more, and the Flight Plan is in the teleprinter.

SC Roger, Crip.

CC Skylab, Houston. We're 1 minute from
LOS. See you again at Hawaii at 18:09, 1 8 0 9. And Rusty
will be available to talk EVA with you at that point.

PAO Skylab Control at 17 hours 11 minutes and
44 seconds Greenwich mean time. We have lost signal at the
Vanguard tracking station and will acquire again in 56 min-
utes and 44 seconds at Hawaii. At that time Astronaut Rusty
Schweickart, a member of the backup crew, will be available
to talk to the crew about the EVA, and you'll hear that on
live air-to-ground in about 56 and 1/2 minutes. This is
Skylab Control at 12 minutes and 5 seconds after the hour.

END OF TAPE

EVA PREP TALK

SL-II MC-1173/1

Time: 13:06 CDT, 25:18:06 GMT
6/18/73

PAO Skylab Control at 18 hours, 6 minutes, and 37 seconds Greenwich mean time. This time we're approaching the Hawaiian Tracking Station about 1 minute and 50 seconds to acquisition of signal at Hawaii, according to our clock. And we will remain live for air-to-ground from Hawaii. At this time we expect to hear from Rusty Schweickart, here on the ground, speaking with the astronauts about the planned Extra Vehicular Activity for tomorrow morning. This is Skylab Control remaining live for air-to-ground; Hawaii.

PAO Skylab Control. We have acquisition signal at Hawaii.

CC Skylab, Houston; over Hawaii for about 9 minutes.

SC Hi, Rusty.

CC Hey there, troop, got some word for you.

SC What is it?

CC Okay. Let me talk first, I guess, to CDR with regard to the location of the expected piece of contamination on the S052 disc.

CDR Okay. Go ahead.

CC All right. CDR, when you look in the end - in the mouth of the instrument out there, on the Sun end, the pylon should show up very - as a very obvious thing. The front surface of it is painted white, as is the front surface of the D1 disc. And in looking in the mouth, if you go 120 degrees clockwise from the pylon, you should see the expected piece of contamination, which is - should be about millimeter size on the edge of the disc. From your location in the foot restraint, CDR, the door is going to be slightly to your right, when we go to this roll position, which will allow the sunlight to go down inside the instrument and reflect for you. The Pylon should be at about your 1 o'clock position looking into the end, which then going 120 from that would put the contamination at about 5 o'clock.

CDR Okay. Got it.

CDR Go ahead.

CC By the way, the star tracker is not locked on at the present time. If there's somebody there to do it, go ahead. If there's nobody there, we'll just inhibit the Nz updater - updata from the ground here.

CDR Joe's on his way.

CC Okay, CDR. One other thing. When you're working on the S052 disc, there, you want to be aware that there is a heat rejection mirror down inside there so that with the Sun coming into the end of the instrument, there will be a ray, a rather a relatively bright ray of sunlight coming back out. It's not enough to worry about as far as damaging anything or making you too hot, but just be aware that

SL-II MC-1173/2
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there will be a solar reflection coming back out of the instrument.

CDR Yeah. But it's not ah - It's not the (garble) of the D1 disc, right?

CC Negative. It's way down inside the instrument and rejects the solar heat back out the tube.

CDR Okay. Understand you. The way I looked at that pad, the D-1 disc was the first thing you came to.

CC Okay. The only other caution on it is we want to make sure that you brush from the center of the disc toward the outside and not to drag the hairs across the edge of the disc, because it is very sharp, and will probably leave hairs floating around if we do that.

CDR Okay. Understand.
CC Okay. For the SPT. If you've got an EVA checklist out, page 2.1-11, this is this operation on opening the 52 door.

SPT Stand by, Rusty. I'm getting you a star.
CC Okay. Fine. Let me go ahead then, and mention something on the ah - on the TV and the sail material - Have you had a chance to look at these last couple of messages as they come up on the teleprinter?

CDR Yep.
CC Okay. We want you to know that they're both low priority, in fact, - can you give us the status, have you done anything yet with the TV?

CDR Nope, we haven't. We were going to go ahead and rig it.

CC Okay. Our feeling on that down here is that if you haven't all ready started, we'd just as soon you'd forget it entirely, unless you particularly want to take it out.

CDR Nope. I don't want to take it out. We'll let Joe have it up at the MDA.

CC Okay. Fine. That'll be fine. And we appreciate the pictures out the STS window, if he can give them to us. All right. On the sail material, we also want to let you know that that is relatively low priority, also. If you are going to do that, we'd like to have you do that, Pete, when you come back from the transfer work station before doing the D024, rather than after. And you'll just have to watch out so you don't put your feet on that when you're retrieving the D024.

CDR Understand.
SPT And, Rusty. I'm ready to talk.
CC Okay. On 2.1-11 ah - -

END OF TAPE

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CC Retrieving the D024.

SC (garble)

SC And Rusty, I'm ready to talk.

CC Okay. On 2.1-11 we have this information on opening the S052 door. And I want to make sure you understand why the day and night thing, or if you have any questions regarding that.

SC I'm sure it's to prevent you from damaging the instrument. We're in such a high beta angle that it's going to be a little confusing as to what's day and what's not, and I guess we ought to use the computer talkback. Right?

CC That's negative. The computer talkba - The reason is not to protect the instrument so much, Joe, it's that if the Sun is up and we have the canister locked in solar inertial, we think that when you open the door, it'll close again right away because we will probably not be within 5 arc minutes of Sun center. And that's why the restriction. So if the Sun is physically above the horizon, above the visible horizon, you'll want to use the daylight procedure, which puts you in experiment pointing. And you go Sun centered so that the door will not close on you. If you're at night, however, if the Sun is below the horizon, you can just go ahead and open the door, following that nighttime procedure.

SC Okay. Which reminds me of something. At the very beginning of this checklist, we were powering down the EPC loop, the rate gyros and so forth. Is that a change that we're now to ignore, or what?

CC That's affirmative. You are to ignore all pen and ink changes that we had back there at the - for the previous EVA. Those all apply to low power and things like that. All those pen and inks are to be disregarded. With regard to that, there was a question asked this morning as to the roll angle on the cannister. And we go to the original roll during the prep, which is plus 4392, which is on page 1.2-2.

CC Okay, one change that we have added on that same page during the prep is to have the roll gain at times 1 rather than the preflight planned times 2. The reason for that is that we have had 2 GYRO problems with high roll rates on the canister. And so in order to preclude losing the 2 GYROs, we want to make sure that we have the roll gain in times 1. And CDR, when you're rolling the canister out here, we would appreciate a relatively positive roll from one camera position to the other. That is, don't start and stop rapidly going in and out of a high roll rate.

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SC Okay. All right, Rusty, on the same page where we power down the EPC loop, there are two other pen and ink changes. One of them is to enable TACS; the other one is to enable CMG AUTO RESET. They're all in the same ink and everything else. Now which of those do we pay attention to?

CC Stand by just 1.

SC Got you, didn't we?

SC I think we enabled TACS and I think we enabled CMG AUTO RESET. But it's pretty hard to tell.

CC Yes, sir. We do not power down the EPC rate gyros and that block of pen and inks up there. We do enable the TACs and the CMG AUTO RESET.

SC Okay.

CC Okay. Just a short word on the malfunction procedure with the feed C port purge valve there. We found from testing down here in the last couple of weeks that there's a potential that the feed port purge valve may push in the flapper valve just slightly if there's a low tolerance in the helmet. If that's what's causing a leak, what we're saying is, press on. It's no sweat. Or you can try and reseal the feed port purge valve. By the way we're going - -

SC We've already passed that check once for these purge valves. We never took them out of our helmets because we knew we were going to go EVA.

CC Okay.

SC So they're still in there, and I think they're all right.

CC Two of the three of you have passed the check, Pete. We're just playing cautious for the third guy. We're going over the hill here. We'll pick up the Vanguard at 18:40.

PAO Skylab Control at 18 hours 19 minutes and 3 seconds Greenwich mean time. We have lost signal at the Hawaiian tracking station, and we'll pick up the crew again at Vanguard in 21 minutes and 5 seconds. This is Skylab Control at 18 hours 19 minutes and 17 seconds.

END OF TAPE

I KNOW YOU'RE ALL AGAINST ME

SL-II MC-1175/1
Time: 13:38 CDT, 25:18:38 GMT
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PAO Skylab Control at 18 hours, 38 minutes and 25 seconds Greenwich mean time. We are 1 minute and 49 seconds from acquisition of signal at Vanguard. But we are coming up early in the event that there is an early acquisition. We expect to hear some additional discussion about the preparation for tomorrow's Extra Vehicular Activity. Crewmembers involved in that, directly, are Commander Conrad - Commander Conrad and Pilot Paul Weitz. Dr. Kerwin will remain inside during the EVA and we will remain live for air-to-ground from Vanguard Tracking Ship.

CC Skylab, Houston; over Vanguard for about 10 minutes.

SC Roger.

CC For your information, we're having a data recorder dump at this time over Vanguard.

SC Okay.

CC And the only other information I've got to go from the ground up in that direction is that the summary Flight Plan for tomorrow does not have listed in it any post-EVA time after the eat-period for the SPT. And that was an oversight. And we'd just like to make sure that the SPT takes whatever time's available for the post EVA stuff before pressing on with the housekeeping we do have listed.

SPT We knew you were all against me.

CC That's very perceptive.

CC And, the one other thing we want to clarify is that we do intend to bring back three SOB2 magazines, two A's and 1B.

CDR You betcha, baby.

CDR The original ones are all ready stowed, Rusty, in the command module.

CC Okay. Thanks.

CC And were there any other things we could clarify for you concerning the preps or the operation tomorrow?

CDR I don't think so. Leaving the television down is fine. I understand the sail business. I intend to stow it tonight. And we'll install it before D024. And I think that's about it. We've been over the check - completed the first page on our checklist in time for EVA prep except for ah - 2 of the helmets, you know, the (garble). And I'm just getting ready to some ATM film.

CC Okay. Fine. Did our ah - did our concern on that (garble) port leakage get through there before we went LOS, Hawaii?

CDR Yes it did. I checked Paul's and it, at least my eye ball looks very good.

CC Okay.

CDR We understand it, and will act accordingly.

SL-II MC-1175/2
Time: 13:38 CDT, 25:18:38 GMT
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CC Skylab, Houston. We have sort of a question here. I wonder if there's a possibility that after the TV tour you may have left a hot mike connected there with a light-weight headset on it. We have noticed an apparent shift in the quality of the Channel-B voice and we also noticed considerable background in the last couple of conversations you've had.

CDR Okay. We'll check the boxes that we have, - that we have comm cables connected to and verify it for you Rusty, in just a minute.

CC Okay.

CDR Rusty, we didn't find any in ICOM/PTT. The one's that (garble) which shouldn't make any difference.

CC Okay. Fine. It may be just that your friends up there were rather noisy on your last conversation.

CDR Which ah - Are you referring to the SPT's day in the IMSS?

CC No, the quality on that one was good. But we did have one recorder dump from Channel-B that sounded different as far as the quality was concerned. I think it may just have been something unusual at that time, so I wouldn't go on a witch hunt for it.

CDR Okay.

PLT Hey, Rusty. I've got a couple of words on 509, if you want to pass them on to (garble).

CC Sure. Go ahead.

PLT The checkout went fine, everything nominal. I don't really have anything to report. I would recommend to Hal and those guys, that when those thrusters fired it's quite loud in the workshop - I recommend that anybody down here wear ear protection of some sort. And that they have all those objects tied down, because you get a pretty good blast with those thrusters, even though they're very small.

CC Okay. We got it.

CDR He did a pretty fair flying job, seeing it was done on the end of a 2-1/2 foot table.

CC Rog. We didn't hear that. And we have about 30 seconds before LOS here. We'll be picking you up at Ascension at about 56.

CDR Okay.

PAO Skylab Control at 18 hours, 48 minutes, 40 seconds Greenwich mean time. We have lost signal now at Vanguard and expect to acquire again in about 7-1/2 minutes at the Ascension Tracking Station, a very low elevation pass lasting about 4-1/2 minutes. During the past 2 passes there have been some discussion of the EVA procedures for tomorrow. They're presently working on preparations, studying checklists and making plans for tomorrow's activity. Commander

SL-11 MC-1175/3

Time: 13:48 CDT, 25:18:38 GMT
6/18/73

Pete Conrad will play the role of EV-2 tomorrow. EV-2 has the duty of making minor repairs to one of the ATM batteries, that's CBRM number 15, charger battery regulator module number 15. That battery has been inactive since before the Skylab crew first arrived at the space station. Conrad will also retrieve and replace film for several of the instruments used to photograph the Sun. And he will be responsible for brushing a tiny piece of matter from the occulting disc of the white-light coronagraph that -

END OF TAPE

SL-11 MC-1176/1
Time: 13:49 CRT, 25:18:49 GMT
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PAO - used to photograph the sun. And he will be responsible for brushing a tiny piece of matter from the occulting disk of the white light coronagraph. This is an experiment which has a small disk that's placed in front of a photographic equipment, the coronographic equipment, and that disk has a piece of matter on it. The disk is used to block out the main body of the sun. The disk is used to block out the main body of the sun. The contaminant is about 1/25th of an inch in diameter and it will be brushed off with a small brush. Assisting Conrad will be Pilot Paul Weitz as EV1. The Pilot's job is to take the film as it's handed down by Conrad and to give him replacement cassettes. Dr. Kerwin will work inside the spacecraft and is expected to operate the television camera as EV3. That TV camera is now planned to be operated inside the craft from one of the windows of the structural transition section of the multiple docking adapter, near the Multiple Docking Adapter. This is different from the original Flight Plan, which called for a change assignment of roles. In the original Flight Plan Kerwin was named as EV2, this is premission, with Paul Weitz remaining inside and Conrad the supporting astronaut. But at the option of Skylab Commander Conrad, Weitz, an astronaut on his first space mission, will be given an opportunity to participate as his assistant. Weitz and Conrad did train as EV1 and EV2, so that they could replace the Conrad/Kerwin team in case Kerwin should have been unable to participate in an EVA. Since Kerwin has already participated in the solar array repair, done during an earlier Extra Vehicular Activity, Conrad decided that Paul Weitz should be given a similar role tomorrow. So the team, instead of the original team planned before the mission of Conrad supporting Kerwin, we will now have Weitz supporting Conrad. This is a second or backup team, but it is being done just to give Paul Weitz experience and at the request of Commander Conrad. This is Skylab Control. We have 4 minutes and 32 seconds to acquisition of signal at Ascension and we will return at that time. It's now 51 minutes and 55 seconds after the hour.

END OF TAPE

ALL ABOVE

SL-YI MC-1177/1

Time: 13:54 CDT, 23:18:54 GMT

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PAO Skylab Control at 18 hours 54 minutes and 30 seconds Greenwich mean time. We're now about a minute and 45 seconds from acquisition of signal at Ascension tracking station. A low elevation pass lasting 4 minutes and about 40 seconds. We will remain live for air-to-ground from Ascension.

CC And, Skylab; Houston here over the Ascension for about 4-1/2 minutes.

SC Roger.

CC And Skylab, Houston. We're about 30 seconds from LOS here at Ascension. We're going to be catching you at the Vanguard next next, gateway to the South Atlantic Anomaly, at 20:17.

SC Roger. All aboard.

PAO Skylab Control at 19 hours 1 minute and 55 seconds Greenwich mean time. We have lost signal at the Ascension tracking station and do not expect to acquire again until Vanguard, 1 hour and 15-1/2 minutes from now. This is a long pass with no stations on it; it skirts the area between Guam and Hawaiian tracking stations, and we have no signal at that point. So for an hour and 15 minutes there will be no acquisition of signal. We are expecting a change-of-shift briefing with off-going Flight Director Milton Windler at approximately 2:30. Also with Flight Director Windler will be Robert Parker, the Skylab Program scientist and a representative from the Extra Vehicular Activity Preparations area. This is Skylab Control. We will give you an announcement of Windler's leaving the console. He is now at flight management team briefing, which takes place after each change of shift. And when he returns to Mission Control and departs, we will give you an announcement of that, approximately 30 minutes from now. This is Skylab Control at 2 minutes 56 seconds after the hour.

END OF TAPE

SL-II MC-1178/1
Time: 14:17CDT, 25:19:17 GMT
6/18/73

PAO Skylab Control at 19 hours, 17 minutes, and 9 seconds Greenwich mean time. This time we're just a little over 1 hour from acquisition of signal at the Vanguard Tracking Ship. We do have an announcement; beginning at 2:30 p.m. central daylight time, the final edited version of all television returns so far, from the Skylab Mission, will be replayed. The replay of Skylab's television sequences will run approximately an hour and a half, from 2:30 p.m. to 4:00 p.m. central daylight time. This is a replay of step 3, the final edited version of Skylab's television sequences. All of the television sequences to be replayed from 2:30 to 4:00 p.m. central daylight time today. At approximately 2:30, we expect Flight Director Milton Windler to be available for a change-of-shift briefing. He is now in a flight management team meeting, and we do not have an exact time for the end of that meeting. But as soon as that meeting is concluded, we expect him to leave for a briefing. We're still estimating approximately 2:30 for that briefing. Included in the briefing will be Skylab Program Scientist, Astronaut Robert Parker, and a member of the EVA team. This is Skylab Control at 18 minutes and 26 seconds after the hour.

END OF TAPE

SL-II MC-1179/1

Time: 14:31 CDT, 25:19:31 GMT
6/18/73

PAO Skylab Control at 19 hours, 31 minutes, and 6 seconds Greenwich mean time. We have still not seen Milton Windler return to Mission Control Operations Room. And for that reason, we cannot tell you exactly when the press conference will begin. We do expect it will be delayed. He is apparently still in the flight management team meeting. And as soon as he leaves Mission Control, if we are informed, we will let you know immediately. There will be a slight delay in the replay of the entire television video recorded so far during the Skylab Mission. We expect that delay to be just a matter of a few minutes. That will be a 1 hour and a half replay and beginning probably about 2:35, or shortly thereafter. And that will include all the television sequences as they have been edited from Skylab. This is Skylab Control. We're still 45 minutes and 42 seconds from acquisition of signal at Vanguard Tracking Ship, and we will probably not be up until Milton Windler leaves the Flight Control - leaves the Mission Control Room. Skylab Control at 32 minutes and 8 seconds after the hour.

END OF TAPE

SL-II MC-1180/1

Time: 14:41 CDT, 25:19:41 G,T
6/18/73

PAO Skylab Control at 19 hours 41 minutes Greenwich mean time. At the present time we are passing north of Guam on the decending mode of the 507th revolution of the Earth. We are about to begin a press conference with Milton Windler in building 1 auditorium. Flight Director Windler has left mission control center and is on his way now to go to building 1. He's taking with him someone from the EVA branch and also we expect Dr. Robert Parker, astronaut and Skylab Program Scientist to be available at that briefing. The briefing should begin in about 3 to 5 minutes at building 1 briefing room with Flight Director, off-going Flight Director Milton Windler. The Flight Director now is Charles Lewis and the spacecraft communicator now on duty, Dick Truly. This is Skylab Control at 41 minutes and 52 seconds after the hour.

END OF TAPE

RUSTY TALKS ON EVA

SL-II MC-1131/1
Time: 15:42 CDT, 25:20:42 GMT
6/18/73

PAO Skylab Control at 20 hours, 42 minutes, 42 seconds Greenwich mean time. We have just lost signal at Ascension. During the last two passes over Vanguard and Ascension tracking, we were recording the air-to-ground because of the briefing that was in progress here at Johnson Space Center. We will replay that air-to-ground now. There is a discussion that includes Rusty Schweickart at the Vanguard station and at part of Ascension, as well as Spacecraft Communicator, Dick Truly. Here is the record of the air-to-ground.

CC Skylab, Houston; AOS Vanguard for 10 minutes.

PLT Hi there, Richard. We were beginning to think you had a day or two off.

CC No, sir. Back at work again. How're y'all doing today?

PLT Feeling better, but we're having trouble making sure which changes we're supposed to follow on the EVA checklist, believe it or not. I got a question. On page 3.1-8, if someone there will turn to that page.

CC Okay, hang on just 1 second.

CC Okay. We're looking at 3.1-8. Go ahead.

PLT Okay, in the lower right hand corner, Dick, it says ATM reconfiguration. Right after the (garble) of EVA there's a change which changed section 5 to page Charlie 12. What am I - what is supposed to be used tomorrow?

CC Okay, stand by just 1 second.

PLT Okay.

CC Okay, Paul. Let me see if I can answer this question for you. And if you don't understand it, let's keep talking about until both you and I do. You're to disregard an old message, the number of which was 1317 Alfa, which was sent up for the previous EVA. There is one change in section 5 that is reflected on a message you have - that you got today, I think, the number of which is 2429 Alfa. And it's entitled EVA ATM. Over.

PLT All right. Thank you.

CC Okay. The message - EVA ATM message that we sent up today makes one change under section 5.9 of the ATM Experiment Checklist and data book.

PLT Okay. Well, I'll have to go up there and look.

PLT It's not as simple as just telling me whether to use page Charlie 12 or section 5. (garble) just a minute.

CC Okay. Paul, I'll tell you what. Rusty was not plugged in when you first called up, and did not hear

SL-II MC-1181/2

Time: 15:42 CDT, 25:20:42 GMT
6/18/73

the original question. If you'd like to restate it and still don't understand what I told you, go ahead and maybe he can help more.

PLT

Okay. That might do it.

CC

Roger.

CDR

Hey, Rusty. On - if he's here listening - I was looking out the window now, and I can just see the very top of a CBRM - either 3 or 15. I can't tell which one it is, but I can see down there pretty good. I can't (garble) these things and so forth in the VC. If they tried that, how did they get out there?

SCHWEICKART CDR, yes, I am here, and we were not very specific about that intentionally. It looks as though the two ATM trusses that go down that way - the one closest to the center work station were the four of the relatively good handholds, but we were not too specific about the best way to get there. We thought we'd leave it to your judgement. But if you rotate around your seat about a 90 degree roll, it's right in front of your nose.

CDR

Oh, yeah, I haven't had any trouble locating it. I know where it is, but I - I presume it also says on the package CBRM 15.

SCHWEICKART I don't believe so, CDR. I think the surface is entirely white.

CDR

Okay. Well, I - never mind. I know which one it is.

SPT

Rusty, for me, would you review the - what the function is of the stuck relay, and what I might expect to see as he hammers it?

SCHWEICKART Yes, sir. We hope to see - hope that you'll see, Joe, after Pete hammers it, is that the charging current will come up. That is, that you will begin to see the solar arrays charge the battery.

SPT

Okay.

SCHWEICKART

And two possibilities there - that would

re - -

END OF TAPE

SL-II MC- 1182/1
Time: 15:47 CDT 25:20:47 GMT
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CC Recharge the battery.
CDR Okay.
CC And two possibilities there that
would relate to a hammering on the CBRM, certain testing
that was done preflight indicated that there has been a
history of the contactors sticking and hammering on it in
two cases out of something like a thousand did free up the
contactor and it began working properly.
SPT Was it clear who suggested this
approach?
CC I don't believe so, but the way
things operate, I probably ought to check.
PLT Okay, rod C in the EVA checklist, page
3.1-8.
CC Okay, we're there.
PLT ATM reconfiguration for stowage.
CC Go ahead.
PLT What should the next sentence read?
CC Okay, stand by.
CDR Okay, while you're standing by, let me
answer. The second question of the evening questions tonight
was radial docking port clear and usable. The radial
port of clocking (garble) in position. I've answered that
15 times now. The answer is yes, again.
CC Okay, thank you. I'll make sure we've
finally got it.
CDR Got what?
CC That it's clear.
CC Okay, the sentence after ATM reconfig-
uration for stowage should be back to the original; that
is, it should say, "See ATM experiment checklist and data
book, Section 5," and we do have just a couple of changes
that were called up for that experiment checklist and data
book.
PLT Okay, Joe made some changes to that
today, on page 5-9.
CC That's correct.
PLT So, what is now on page Charlie 12, I
can tear out of the book and throw away. Is that right?
CC Stand by. We'll check that one.
PLT Okay, the reason I left it in rod C, and
it says, "Post EVA panel reconfiguration for unattended OFF." Now
that was before our last EVA, and I don't know what you intend
otherwise. I just wanted to know whether I could throw it away
or not.
CC Okay. The intent of that the last
time related to the low power problems that we were having

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and we are now back to essentially normal, with the exception of things like the S054 power and things of that kind.

PLT Okay.

CC Okay. We're going to recheck that, but in looking at it, from what we can see, and get an answer right now, all that stuff on Charlie 12 was related to the low power situation and if it's any different from that, we'll let you know tomorrow.

PLT Okay.

CC There is one other thing that I thought I'd mention to you tonight, just to make sure you're aware of our concern, and that is that you will be having three people on one SUS loop, and that that SUS loop will be running in by pass rather than in EVA. We want you to understand that you will not have the same cooling that you had last time. The inlet temperatures to the LCG will run slightly higher, and so we would like to ensure that you do not get behind the power curve by storing very much heat and then going to, say a diverted position of 5 and expecting everybody to remain cool. In other words, we'd like you to try and stay ahead of the heat buildup and if possible we'd like you to avoid using position 5 unless it is necessary.

CDR Now that's radically different (garble) We probably won't get it over heated. I never got hot a bit the last time.

CC All right, but you realize you were running an EVA position before, and this will be slightly different. The loop will not be quite as cool.

SPT Rusty, this is Joe. I rigged the LSUs this afternoon per the cue card, and I put EV 1 and EV 2 on SUS 2. Is that wrong?

CC (Garble) We're going to have to get you an answer at Ascension. We're only 15 seconds from LOS here. But all three will be run on the same SUS loop. We'll get right back to you.

SPT Okay.

CC And guys, we're going to see you at Ascension at 20:30, and we will be dumping the data recorder there.

CC Skylab, Houston. We're AOS at Ascension for the next 10 minutes, and please stand by. We're straightening out the question on the SUS loops. We'll be right back to you (garble)

SPT We found the message, Dick.

CC Okay, so you will have all three connected to -

END OF TAPE

SL-II MC-1183/1

Time: 15:52 CDT, 25:20:52 GMT

6/18/73

PLT - we found the message, Dick.
CC Roger. Okay, so you will have all three
connected to SUS 1, then?
PLT Right.
PLT (Garble) point is well taken. We changed
a lot of other things, though, on those EVA cue cards, but
didn't change that.
CDR If those guys on the next crew don't do
anything, they better work something out with the guys on
the ground about these changes, because we have no way
of keeping them straight.
CC Yeah, we've got very much the same problem
here. I don't think we're in much better shape than you guys
are. The only thing is we have more input. I think in regard
to that - if doing the prep tomorrow morning, there's any question
at all about what we've meant, please feel free to ask.
CDR Oh, was trying to pin down the hammer one
day. I can't find it. I'm not sure it didn't get slipped
in the checklist someplace. I got the one about the location
of the CBRM, but I don't know what happened to the one with
the hammer. It went in to the checklist, I guess. You know
what message that was on?
CDR Which group it was in?
CC Was this the one talking about prep
of the hammer, Pete?
CDR Right.
CC Okay, we'll look and into that.
CDR Hey, meanwhile - CDR ate everything. He
had no optional salt. He's going to have two butter cookies.
The PLT ate everything today but his bread. He added plus
1 H₂O and 1.5 optional salts, and plus 1 H₂O for the CDR, also.
CC Okay.
CDR And the SPT ate everything today.
CC Roger.
CDR And let me give you the film.
CC Okay, we're listening.
CDR Okay, on the film, day 169. 16 millimeter:
S092/171 M151, SPT Charlie India 1438, Charlie India 11.
M151-1, Charlie India 14 00, CI Charlie India 11; 35 millimeter:
Charlie India 30 exposed, Charlie India - by the way, we got
seventy some pictures on that, Charlie India 3208, Charlie
India 3128, CX06 on the 70 millimeter is still on 103. No
EREP. A-1: X-porter 02, no supplies, no percentage, Charlie
India 12; A-2 is 03, Charlie India 06 18 Charlie India 03 83
06, Charlie India 13 48, Charlie India 10 84 05, Charlie India

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14, no film, Charlie India 11; floating 07 Charlie India 09
56, Mike Tango 03. That's it.

CC Okay, thank you, Pete. We got it.

SCHWEICKART And, CDR. That message on prepping the
hammer was on the same message with the one that talked about
bringing the SUS - the SUS 1 loop on in about four steps there.
And I can talk to you about it if there's a question. It
should be in your prep checklist on page 1.2-5.

CDR Okay. Well, that's where it is, then.

CDR All right. Roger.

CDR Okay, Rusty. I remember it was a 2-1/2 inch

Joop, and it was supposed to go on the VC tree, right?

CC It was a 2-1/2 inch loop, and the reason -
no - it - it will hook into the temporary stowage hook in
the SAS. And the 2-1/2 - the reason for the 2-1/2 inch loop
is in order to interface properly with the boom - the jaws
of the boom hook.

CDR Oh, yes.

PLT Okay.

CC And with the - with the brush we have a
smaller loop, and we're taping that to the VS tree. And then you
can use the small elastic wrist tether hook when you're down
at the Sun end, to hold onto that one when you're reaching
down in there.

CDR Right. We got - we got that covered. Okay.

CC And when you get out there - on that CBRM -
how about giving it a hit for us, too, will you?

CDR Okay. I had a little practice on the Moon,
and I'll see what I can do up here. They're guaranteed if you
break it? Right?

CC We've been - we asked very carefully about
that and we were given tremendous assurance. In fact, they
hit an operating CBRM as hard as they could, about 30 to 35
times over in Huntsville, and - -

END OF TAPE

SL-II MC-1194/1
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CC Tremendous assurance, in fact they hit
an operating CBRM as hard as they could, about 30 to 35
times over in Huntsville, and it kept right on operating.

CDR Okay.

CC Guys, we've got about 4 minutes left in
this Ascension pass, and I've got a couple of more general
notes for you. One is, tomorrow morning, we're going to be
operating ATM unattended operations for about 1 hour after
you wake up, and since there's no other ATM operation
scheduled tomorrow, we have no other reason to send up a
SAP pad or a schedule pad, and we don't intend on doing
that this evening, and I'm assuming that you guys are going to
be busy preping for the EVA anyway, so that won't make any
difference. Okay, the other note I have here is an answer
to Pete's question last night about the trim burn. First of
all, the purpose - the functional purpose of that trim burn was
to set up a ground track drift rate such that when
Al Bean and his friendly comrades get up there on SL-2, their
first trim maneuver will put us back on a premission nominal
ground track. And the reason - there are several reasons
for the thing being so small. One is, we've had less drag
than we predicted, we've vented less than we had predicted. We've
shortened the time between SL 2 and 3, and also we were on
the west - we already were on the proper side of the ground
track in drifting towards it, so that the trim burn went off
just like we planned it and it accomplished our purposes.

CDR Good.

CC Roger.

SPT How much time we got?

CC Still got 2-1/2 minutes. Go ahead.

SPT Are you ready for the status on our
wardroom window here?

CC Yes Sir.

SPT Okay. Since it wasn't working anyway,
we decided last night we might as well turn it off. So we
turned it off. We got up this morning and the whole gear
pane was covered with frost - fog. Covered with condensation
on the inside. So I turned it back on, and it went away.
So the heater is working. Now I don't know whether they're dual
elements one of them's working, or both panes are heated,
and only the inner one's heater is working anymore, but it
obviously heats the inner pane yet, Dick, because it drove
that condensation off and keeps it away. So we still have
what was flowing water is now ice, but maybe that's because
it works in space more than it did before. I don't know,
you tell us.

CC

Well, just so we won't have to ask you

SL-II MC-1184/2

Time: 15:57 CDT 25:20:57 GMT

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another question later, tell me again which side of the inner pane the fog was on?

SPT It was on the inside. You could wipe it off with your hand.

CC Okay. Thank you.

CC Skylab, Houston. We're about 30 seconds from LOS. We're gonna see you at Guam at 21:15.

PAO Skylab Control, 21 hours and 6 seconds Greenwich mean time. That's the end of the tape from Vanguard and Ascension passes that was recorded earlier. We just finished replaying the Vanguard and Ascension pass from this last revolution. You might have noticed during the conversation, there was some discussion of the operation of the coolant loop for tomorrow's EVA. Normally both coolant loops are operated, with two crew members using one of the coolant loops, and the remaining crewman using the other loop. Tomorrow they will not use both coolant loops. The ground flight controllers are concerned that the secondary coolant loop is still not being properly controlled for temperature by temperature control valve B, that's the control valve that had stuck in a rather cool position earlier. They're not satisfied yet that it is operating, although there is some disagreement as to whether it is or not. It's reading approximately 46 degrees, that's about 1 degree cooler than it's supposed to read. And they're concerned it may be stuck in that position, and may not correct itself. For this reason they'll be operating only on the primary coolant loop tomorrow. All three crew members using the same coolant loop. They will also not go to the EVA position. Normally there is a special EVA position, which allows greater cooling to the cooling systems inside the suits. That EVA position was used during the previous EVA to repair the solar panel. At that time the shock from the coolant coming in out of the radiators was severe enough to cause the primary coolant loop temperature control valve to freeze up. And for a while, we had some rather cold temperatures and some danger of freezing water in adjacent systems. For this reason they will not be using the EVA position. That means they will have reduced cooling on that primary coolant loop, so we'll have less cooling and a single coolant loop running. For this reason they suggested to the crew that they attempt to keep their body heat regulated and not allowed to build up and then try to cool off in a hurry. The indication they gave this, don't use position 5 if you can avoid it. Position 5 is the maximum flow rate on coolant. This is Skylab Control at 21 hours 2 minutes and 23 seconds. Our next acquisition of signal, in 12 minutes and 40 seconds at the Guam tracking station. Skylab Control at 2 minutes and 32 seconds after the hour.

END OF TAPE

DEGREES GIVEN TO CREW FROM COLORADO AEROTECH

SL-II MC-1185/1
Time: 16:14 CDT, 25:21:14 GMT
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PAO Skylab Control at 21 hours 14 minutes
Greenwich mean time. We're 1 minute from acquisition of
signal at the Guam tracking station and we'll remain live
for air-to-ground and a call from Spacecraft Communicator
Dick Truly. Fifty seconds to acquisition of signal at Guam.
CC Skylab, Houston. AOS at Guam for 10 min-
utes.

SC Roger.
CC Skylab, Houston. Star tracker is unlocked
and we think we see - we think we see you trying to help us
out in getting that reacquired. Outer gimbal should be plus
1980.

SPT Roger.
CC Skylab, Houston. I'm not sure what the
other two guys are going. Joe, I guess, is at the ATM. If you're
not doing anything and in a listening mood, I got a couple
of news items that I'll read up to you.

SPT Go man.
CC Okay, first one here is a telegram that
came to General Stafford today. And it says: "Colorado
Aerotech, accredited under the state of Colorado, an aviation
mechanics technology school being duly authorized by the
Chairman of the Colorado State Board of Community Colleges,
does hereby issue and grant the honorary degree, Master of
Aviation Airframe Maintenance, to U.S. Navy Captain Pete
Conrad; U.S. Navy Commander Joe Kerwin; and U.S. Navy Commander,
Paul Weitz. This degree is presented for the outstanding
efforts exercised in restoring the Skylab to an operational
state under most adverse conditions, utilizing the most
rudimentary airframe tools. In addition, each astronaut is
recognized for his initiative and abilities as a truly first-
rate airframe technician, operating in space, repairing and
altering a spaceship." From Colorado Aerotech.

PLT You made that up.
CC Negative.
PLT Super.
CC One question I have for you guys. The
other day when we were not reading your news up every night,
did somebody pass you up information about the TU144 Super-
sonic Transport at the Paris Air Show?

PLT Yes, we d'd hear about that accident, Dick.
CC Okay, fine.
CC This is from Tokyo. A strong earthquake
followed by a tidal wave hit the northern Japanese Islands
Sunday, injuring at least 23 persons and carrying more than -
causing more than five million dollars damage. About 300
tons of dead salmon were washed to shore by the 6-1/2 foot

SL-II MC-1185/2

Time: 16:14 CDT, 25:21:14 GMT

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tidal waves that followed the tremor. And the quake measured 7.25 on the Richter scale. In Washington today President Nixon and Soviet leader, Leonid I. Brezhnev, today begin a long planned summit conference, each pledging that the talks would improve the prospects for world peace. Brezhnev promised the week-long conference would justify the hopes of our people and serve the interests of a peaceful future for all mankind. Nixon predicted a conference would help lift the burden of armaments from the world and build a structure of peace. Here's one from Kyle, South Dakota. A leader of the American Indian movement told the Senate subcommittee on Indian Affairs Sunday, that the Indians want to be recognized as a sovereign nation in their own dealings with the Federal Government. The traditional Chief, Frank Fools Crow and Charles Redcloud, called for the removal of Stanley Lyman as Bureau of Indian Affairs Superintendent on the reservation. Redcloud said a lot of the money comes on to the reservation, but no one knows where it goes. Redcloud also asked that liquor be banned from the reservation. Finally, here from - here's one from Paris. American and North Vietnamese officials resumed talks on U.S. diplomatic aid to Hanoi today after a lapse of two months. "We seek a successful conclusion as the contribution to the consolidation of peace in south-east Asia. Chief U.S. delegate, Maurice Williams said: "The resumption of negotiations was agreed in a communique signed last Wednesday, pledging both sides to renewed commitments to peace in Viet Nam. We've still got about 3 minutes left here at Guam, and I'm standing by.

PLT

Thank you.

CDR

If we get that CBRM fixed tomorrow we ought to qualify for our Ph.D. in airframes.

END OF TAPE

SL-II MC-1186/1
Time: 16:22 CDT 25721:22 GMT
6/18/73

CDR
ought to qualify for our Ph.D. in airframe mechanics.
CC
CDR
brush duster-offer all installed on the VS tree, and cut off
a hunk of the SEVA sail, and I'm about to go sew for awhile.
CC
CDR
in the Timber Cove Sewing Association.
CC
Okay. Fine.
I was just going to suggest that same

thing.
CC
AOS. We're going to see you at Vanguard at 21:55. That
will be the medical conference. The next pass after that
is Canary at 22:15.
CDR
CC
PAO
Roger. See you then.
Roger.
Skylab Control at 21 hours 25 minutes

and 11 seconds Greenwich mean time. We have now lost signal
at Guam tracking station, and do not expect to hear from the
crew again until possibly at Vanguard. Vanguard is reserved
30 minutes from now for a private medical conference with
the flight surgeon. Should the surgeon complete his con-
versation, we will have live air-to-ground in the event that
there is any discussion between the crew and spacecraft
communicator Dick Truly. So that next pass at Vanguard
29 minutes is reserved for a private medical conference, but
we have over the last several days had some time for open air-
to-ground. This is Skylab Control at 25 minutes and 56
seconds after the hour.

END OF TAPE

SL-11 MC-1187/1
Time: 16:54 CDT 25:21:54 GET
6/18/73

PAO Skylab Control, 21 hours 54 minutes and 47 seconds Greenwich mean time. We have had acquisition of signal at Vanguard and are receiving telemetry data here in Mission Control. At this time there is a private medical conference being conducted with Dr. Buchanan in a private room here in the Mission Control Center. That is not over live air to ground. This is our daily medical conference. If that should be completed before the Vanguard pass, which lasts something over ten minutes, then we should hear a call from spacecraft communicator, Dick Truly, to the crew. That normally has been taking place over the last several days about 4 or 5 minutes into the pass. We will remain live now for air to ground in the event that the private medical conference is a brief one. This is Skylab Control remaining live.

CC Skylab, Houston. We're standing by at Vanguard. We've got 6 minutes left in the pass.

CDR Okay. (garble)

SPT The SPT is trying for a rare perfect (garble)

CC Roger.

CDR Say, when I get back, I want to know how much time you all estimated for me to do this sail job.

CC Okay, I'll make sure that - I'll pass to Rusty and figure out what is it they thought.

CDR Okay, then I'll tell you how long it really took.

CC Okay.

SPT Houston, SPT. Does ATM want H-alpha to take pictures tonight?

CC Stand by 1.

CC SPT, Houston. Negative.

SPT Okay, I'm ready for my final exam.

CC Okay.

SPT And if the PIs are listening, we will have a final debriefing for them on Channel B a little bit later.

CC Okay, very good, then I'll sure alert them.

CC Skylab, Houston. two comments; for Joe, the ATM officer says that you got a B+, that the grat-ing was to be 0000, and he's going to take care of that from the ground. And for the CDR, I'm advised by our EVA friends that the estimated time that they thought it would take you on that sail job was 15 to 30 minutes.

CDR Well, I've already invested about an hour and 15 in it, and I got about another half to go.

SL-II MC-1187/2
Time: 16:54 CDT 25:21:54 GMT
6/18/73

CC Well, sounds like we sure blew that one.
Sorry. We're about 30 seconds from LOS at Vanguard. We're
going to see you at Canary at 22:15, and we're going to dump the
data tape recorder at Canary.

PAO Skylab Control, at 22 hours 6 minutes
and 11 seconds. We have lost signal at Vanguard. We will
have a very low elevation pass at Ascension and may not
acquire there. Nine minutes from now, we should acquire
signal at Canary Island. This is Skylab Control at 6 minutes
and 27 seconds after the hour.

END OF TAPE

SL-II MC-1188/1
Time: 17:14 CDT, 25:22:14 GMT
6/18/73

PAO Skylab Control at 22 hours 14 minutes 47 seconds Greenwich mean time. We are approaching acquisition of signal at the Canary Island tracking station off the east coast - west coast of Africa. And in 26 seconds we will have acquisition there. We will stay alive for air-to-ground and a call from spacecraft communicator, Dick Truly.

CC Skylab, Houston. We're AOS at Canary and Madrid for the next 13 minutes. The G&S at this site is going to be updating the Z-3 rate gyro for drift compensation. And Rusty had one note he wanted to mention to you at this pass. I'll turn it over to him.

SCHWEICKART CDR, vacuum division here.

PLT Go.

SCHWEICKART In the process of - I wonder what the status is on loading the film freezer. Are you trying to get that out of the way tonight?

PLT It's all done.

SCHWEICKART CDR, this is sort of a low priority one, but if you get a chance, we'd like to have you take a look at the aperture window - or maybe you already did on the S054 magazine, and see if the aluminum filter there at the entrance was still intact.

PLT He will.

SCHWEICKART Okay. Want to be a little bit careful in sliding back the spring-loaded plate there - not to do it too rapidly, but just bring it back cautiously and assure that there aren't any holes in it, and then let it slide forward slowly again.

PLT Roger.

PLT You want a picture there?

SCHWEICKART Negative. If there are any holes in it, we'd like to know about it and then we'll have to schedule putting - 54 mags, but we don't anticipate there will be any. We would like your recommendation, though, if there is any evidence of those.

PLT Okay. Well, I'll tell you, if we see any evidence of holes we'll probably put gray tape over them.

SCHWEICKART Okay.

CC Skylab, Houston; we're 1 minute from LOS at Madrid. We're going to see you at Guam at 22:54 for the last pass of the evening. See you then.

PLT Okay, Dick.

PAO Skylab Control at 22 hours 29 minutes and 4 seconds Greenwich mean time. We have lost signal at Madrid. That was a double pass at Canary Island and Madrid, and do

SL-II MC-1188/2

Time: 17:14 CDT, 25:22:14 GMT

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Do not expect to acquire the space station again until 24 minutes and 40 seconds from now, at which time we should hear the final call of the day from spacecraft communicator, Dick Truly, as we hear a good-night from the crew at Guam. That will come in approximately 24-1/2 minutes, and that will be our last pass for today. This is Skylab Control at 22 hours 29 minutes and 33 seconds G.m.t.

END OF TAPE

SL-11 MC-1189/1

Time: 17:52 CDT 25:22:52 GMT
6/18/73

PAO Skylab Control at 22 hours 52 minutes
53 seconds Greenwich mean time. We are approaching ac-
quisition of signal at Guam for the last pass of the day.
Expect to hear a call from spacecraft communicator Dick
Truly any moment now, as we reach acquisition at Guam. This
is Skylab Control, remaining live for air-to-ground from
Guam.

CC
7 minutes.

Skylab, Houston. We're AOS at Guam for

PLT

Say, Richard.

CC

Go ahead.

PLT

There's a very bright star, which is
probably a planet, up near the moon. By near, I mean it's
within about 10 to 15 degrees of the moon. Now, could you
have somebody find out what it is.

CC

Sure will. Stand by.

CC

Skylab, Houston. On the question you
had about the planets, both Mars and Jupiter are in that
area of the sky. Jupiter is the planet that's closest to
the constellation Nunki, and we think - two-starred Nunki - and
we think that it's probably Jupiter that you see.

PLT

Okay. Don't think it's bright to be Mars.

Thank you.

CC

Roger, and we're about 45 seconds from
LOS here at Guam. We'll see you guys in the morning. The
first pass is about 15 minutes after you wake up. And it'll
be a Honeysuckle pass, and you all have fun tomorrow on the
EVA.

PLT

Sure will, and good night.

CC

Roger. Good night.

PAO

Skylab Control at 23 hours 1 minute 18
seconds Greenwich mean time. We have lost signal at Guam
tracking station. Our next acquisition is at Honeysuckle
in about 3 minutes and 43 seconds. However we did have a
"good night" from spacecraft communicator Dick Truly over
Guam and do not expect to hear from the crew again this
evening. Today was the last full day of experimental act-
ivity aboard the Skylab space station. Two members of the
crew, Dr. Joseph Kerwin and Commander Pete Conrad, were
subjects of medical investigations that test the effect
of weightlessness on fluids normally contained in the
lower half of the body and on the physical effort required
to perform work on a bicycle ergometer. After a busy day
sharing the study of the Sun with Paul Weitz, Dr. Kerwin
closed out the manned operation of the solar telescope and
associated instruments. After film is retrieved by Pete
Conrad from the telescope mount's cameras during 3 hours of

SL-II MC-1189/2

Time: 17:52 25:22:52 GMT

6/18/73

Work outside the space station tomorrow, three of the solar instruments, including the white light coronagraph, the X-ray spectrographic telescope, and the ultraviolet spectrometer will continue operations during the unmanned period of the mission. That is to say beyond Friday we will still be receiving data for approximately 16 hours a day from three of the ATM instruments. Some 2 hours were spent today preparing for tomorrow's activity outside the space station. In addition to retrieving and replacing film and camera assemblies from the solar telescope mount, Commander Conrad will hammer on a dead battery for the telescope mount solar array. The battery has been out of order since before the crew first arrived at the space station. Paul Weitz will assist Conrad, while Kerwin works inside the station tomorrow morning. Kerwin is expected to use the television camera, shooting through the windows of the structural transition section and the command module during part of the period of the EVA. That EVA tomorrow morning begins at 11:40 Greenwich mean time, or 6:40 a. m. central daylight time, and it is expected to continue for 3 hours. That is the final pass of the day; we do not expect to hear again from the crew. This is Skylab Control at 3 minutes and 35 seconds after the hour.

END OF TAPE

SL-II MC-1190/1
Time: 18:27 CDT, 25:23:27 GMT
6/18/73

PAO Skylab Control at 23 hours 27 minutes and 19 seconds Greenwich mean time. At the present time we believe the crew is asleep. We are out of range of tracking station. We did not get any report from Honeysuckle, the last tracking station after a good-night at the previous station. We now have the surgeon's report. It is as follows: "The general health and attitude of the Skylab 2 astronauts is good. They are looking forward to the EVA tomorrow and are apparently feeling physically ready for their tasks." Signed: Dr. Buchanan for Dr. Hawkins. That concludes the surgeon's report from the private medical conference tonight, and this will be the final message from Skylab Control until approximately 2:00 a.m. tomorrow morning. This is Skylab Control at 28 minutes after the hour.

END OF TAPE

SKYLAB II

Vol. III



CRIM. MATRS. 27

SL-II MC- 1191/1
Time: 02:10 CDT 26:07:10 GMT
6/19/73

PAO Good morning. This is Skylab Control at 7 hours 10 minutes Greenwich mean time, on the 26th day of the first manned mission of the Skylab program. This is extravehicular activity day for the crew to retrieve Apollo telescope mount film. And attempt to fix the charger battery regulator module 15. Skylab is coming up on acquisition at Honeysuckle, Australia at the present time. The Capcom, Astronaut Dr. Bill Thornton will be putting in a wake-up call to the crew at that time. Flight Director at the present time is Don Puddy, who reports that there have been no systems problems overnight. Everything functioning well. The surgeon's report last night was that the general health and attitude of the crew is good. They are looking forward to the EVA today and are apparently feeling physically ready for their tasks. We'll stand by for acquisition through Honeysuckle.

CC Skylab, Houston. AOS 8 minutes Honey-suckle.

CDR Morning Bill.

CC Good morning, Skylab.

CC LOS in 30 seconds. Hawaii 07:32.

PAO This is Skylab Control at 7 hours 23 minutes Greenwich mean time. Honeysuckle has loss of signal. Hawaii will acquire Skylab in 9-1/2 minutes. At 7 hours 23 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1192/1

Time: 02:30 CDT, 26:07:30 GMT
6/19/73

PAO This is Skylab Control at 7 hours 30 minutes Greenwich mean time. Skylab coming up within acquisition of the Hawaii tracking station very shortly. The crew is up, in their postsleep activity period; probably starting to have breakfast. We'll stand by for acquisition at Hawaii.

CC

Skylab, Houston; AOS Hawaii 9 minutes.

CDR

Roger, Houston.

CC

LOS in 1 minute. Goldstone 07:44.

CDR

(Garble)

PAO

This is Skylab Control at 7 hours 44 minutes. We're at Goldstone now.

END OF TAPE

IVA PAGE BEGINS :20 CUT

SL-II MC-1193/1

Time: 02:44 CDT 26:07:44 GMT

6/19/73

CC
CDR
PAO

LOS in one minute. AOS Bermuda 07:56.
Roger.

This is Skylab Control at 7 hours 52 minutes Greenwich mean time. Goldstone has had loss of signal. The Skylab is at 30 degrees north latitude now, the northernmost part of its ground track, just barely out of range of the Texas and Merritt Island, Florida stations. It will be about a 3-1/2 minute LOS until Skylab moves within range of the Bermuda station. Preparations for the extravehicular activity are scheduled to begin at a Greenwich mean time of 9 hours 20 minutes, that's 4:20 a. m. central daylight time. Flight plan time for beginning of the extravehicular activity hatch opening, 11 hours 40 minutes Greenwich mean time, or 6:40 a.m. central daylight time. The crew is still in postsleep activities at this time. No conversation during these passes right after wakeup. We'll be coming within range of Bermuda shortly. We'll stand by for that acquisition.

CC
CDR
CC
CDR

Skylab, Houston. AOS 8 minutes.

Houston, CDR.

Go, CDR.

We got any problem if we get ready to go out early, if we go ahead and go?

CC
CC

Stand by a half.

Schweickart may be a little late, but we're looking at the others.

CC

CDR, there appears to be no reason at

all here that you cannot go when you're ready.

CDR

Okay, we'll do it. Thank you.

END OF TAPE

EVA NICHT RE EARLY

SL-II MC-1194/1

Time: 02:58 CDT, 26:07:58 GMT
6/19/73

PAO This is Skylab Control. Skylab Commander Pete Conrad seems fairly certain that they'll begin this extravehicular activity early. Just how early is unknown. We'll have to stand by and see how the crew proceeds and what develops. He does seem to believe that the crew will be ready to go early.

PAO LOS in 1 minute. Canary AOS 08:05.

CDR Roger.

PAO This is Skylab Control at 8 hours 5 minutes Greenwich mean time. Bermuda has loss of signal.

CC AOS for 16 minutes.

PLT Roger, Houston. What's our beta angle this morning?

CC Stand by half.

CC That's 62.5.

SC (Garble)

PAO This is Skylab Control. Skylab is in acquisition through the Canary Island station. There'll be overlapping coverage from the Ascension Island station. We'll be in contact for approximately 15 minutes on this pass.

PAO This is Skylab Control. Here in the control center, Flight Director Milton Windler, who is coming on duty with his team of flight controllers, is being briefed by Flight Director Don Puddy. When the handover is completed the Cap Com will be Astronaut Bob Crippen. Flight Director Puddy estimates his Change-of-shift news briefing for 4:15 a.m. central daylight time. Change-of-shift news briefing in the JSC news center at 4:15 a.m. central daylight time.

END OF TAPE

SL-13 HC-1195/1
Time: 03:13 CDT 26:08:13 GMT
6/19/73

CC Skylab, LOS in 1 minute. Carnarvon 08:48.
PAO This is Skylab Control at 8 hours 23
minutes Greenwich mean time. Ascension has loss of signal.
Carnarvon, Australia will acquire in 25 minutes. At 8 hours
23 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

RUSTY & GEM DISCUSS EVA

SL-II MC-1195/1
Time: 03:45 CDT, 26:08:45 GMT
6/19/73

PAO This is Skylab Control at 8 hours 46 minutes Greenwich mean time. Skylab coming up within range of Carnarvon, Australia station now. We'll stand by.
MCC And, Skylab, Houston vacuum division now on station and ready to support you over Carnarvon for about 6 minutes.

PLT Rcg, Rusty.
PLT Hey, I'll probably talk to you later in the checklist, but for right now, I've already set up the EVA DAC and don't have a frame rate (garble). Do you remember what that is?

MCC Stand by and we'll get it for you.
PLT Okay, thank you.
MCC Okay, that is 5 frames per second there,

PLT. Thank you.
PLT This is Skylab Control. That was Astro-

PAO naut - -
PLT Roger.
PAO - - Astronaut Rusty Schweickart, the backup spacecraft Commander for this mission, has joined Bob Crippen on the Cap Com console, and will probably handle most of the Cap Com duties during the EVA.

CDR Say, Rusty; CDR.
MCC Go ahead.
CDR I'm going to give you a guess, but I think we're about 20 minutes away from picking up and - LCG - to commence LCG donning.

MCC Okay. I understand about 20 minutes from LCG donning. How about the rest of the preps inside aside from the EV-1 and 2? Where do we stand there?

CDR Paul's doing the systems right now and the only thing that I didn't do on the front of the card yesterday which is in work right now is I'm anti-fogging helmets and otherwise on the cue card we're holding at LCG donning for Paul to catch up on systems.

MCC Okay, fine. We wondered what it was Paul was expecting the CAUTION and WARNING on and we're trying to figure out whether he just performed page 1.2-6.

PLT That's affirmative. I got the CAUTION and WARNING when I turned off the MOL sieve B fan.

MCC Okay, Paul. If that was the handwritten stuff on the bottom there, we want to remember that we're running down on the printed checklist - the preflight one now and stand by on that Mol sieve B.

PLT Okay. Let me know.
MCC Okay. We would like you to turn the MOL

SL-II MC-1196/2

Time: 03:45 CDT, 26:08:45 GMT
6/19/73

SIEVE B back on again.

MCC Okay, and also PLT, in anticipating you turning on the - going through the SUS loop activation here, we're going to start up the second pump in the primary coolant loop and you can stand by for a caution and warning on that one.

MCC PLT, we had a handover from Carnarvon to Honeysuckle there. I wonder if you got that last conversation?

PLT Yes sir. It's running.

PLT You're right. I see how I got into it is the first line of that write-in which says remove the portable fan is still applicable, so I went down the rest of it also.

MCC Okay. Fine.

MCC And PLT, Houston here. We would like to have the SUS loop activated before the EV-1 and 2 get into the - get suited up and get into the connecting to the LCGs to the PCU, and we have Hawaii coming up at 09:11, which is about 15 to 16 minutes from now. And we can be standing by at that time to monitor you with this procedure on activating the SUS loop. Or, if you're really ready for it before that time, go ahead on your own, following that procedure that we've updated you with on 12-9.

PLT We're ready now. Are you?

MCC Yes, sir. Go ahead right now. We'll watch it.

PLT Okay.

END OF TAPE

PLT

SL-II MC-1197/1

Time: 03:55 CDT 26:08:55 GMT

6/29/73

SPT Houston, for what it's worth, we don't get the EVA warning when I fired up that pump that time.

MCC Okay. Roger. We got about 30 seconds here going over the hill at Honeysuckle, and we'll pick you up at Hawaii at about 09:11. And just to make sure you understand - -

SPT Rusty, we thought you wanted to look at that. Do you want him to continue?

MCC Yeah, just clarifying that. Just continue right on with it. You can do it during LOS here.

SPT Thank you.

PAO This is Skylab Control at 8 hours 59 minutes Greenwich mean time. Honeysuckle has had loss of signal. Hawaii will acquire in about 12-1/2 minutes. About 5 minutes ago, Pete Conrad indicated he estimated the crew was about 20 minutes away from donning the liquid cooled garments, that's the undergarment to the pressure suit. He said that they would hold up at that point to allow Paul Weitz to catch up on the systems work that's necessary for the EVA. The SUS loop, or the suit umbilical system, was activated during this pass over Honeysuckle. We should have a better estimate when we get to Hawaii as to how far ahead of the schedule time line the crew is. We'll come back up just prior to Hawaii. At 9 hours Greenwich mean time, this is Skylab Control.

END OF TAPE

DON'T LINE CCU CONNECTOR

SL-11 MC1198/1

Time: 04:09 CDT, 26:09:02 GMT

6/19/73

PAO This is Skylab Control at 9 hours
9 minutes Greenwich mean time. We're standing by for
acquisition at Hawaii.

MCC And, Skylab; Houston with you over
Hawaii for about 6 minutes.

SPT Hey, how's the suit loop look - suit
loops look, the flow.

MCC Would you say that again?

SPT I don't think I can.

MCC Okay. It looks good from here. It
looks like we're getting good modulation on the valves,
and it look copacetic.

SPT Okay.

CDR Hey, Rusty, PCU 010 is 6000 for the
CDR; PCU 016, 6200 for the PLT.

MCC Okay. We got that.

MCC How's the SPT doing? Can he take
down a note or two?

SPT Wait.

SPT Say, Rusty, in case I never told
anybody that I don't like this CCU connector, I don't
like this CCU connector on the umbilical.

MCC Okay. We think we understood that
you don't like the CCU connector on the umbilical. Is
that correct?

SPT Yes.

MCC Okay. We got it.

SPT Go ahead, Sky Prince.

MCC Okay. Wanted to let you know about
the TV this morning. We're set up for Goldstone to Mila
real time between 11:02 and 11:19. That's a little over
a rev from now. Other times the VTR is available, and
it's ready for your use any time you want it; any time
you think there's anything interesting to put on the VTR,
it's clean. And in particular, if you're able, we'd like
to get a shot of the airlock, the pre-EVA stowage of the
airlock, and also what the airlock looks like with the
two guys in it there, just before you close up the hatch,
if that's possible, Joe.

SPT Should be able to get you that all
right, Rusty. I don't think we'll get much out the window,
as Paul mentioned. You can see some things out these
STS windows, but you can't get the camera in - in position,
and when you do, you're pretty close to the top.

MCC Okay. Fine. I trust your judgement
on that. No problem.

SL-II MC1198/2
Time: 04:09 CDT, 26:09:09 GMT
6/19/73

SPT Okay.
MCC Okay, Skylab; we're about 20 seconds
from LOS at Hawaii, and we'll be seeing you with the States
at about 9:24.

PAO This is Skylab Control at 9 hours 18 min-
utes Greenwich mean time. Hawaii has lost the signal.
Flight Director Don Puddy is on his way to the News Center
for the Change of Shift News Conference. We'll take the
line down and tape any air-to-ground communication during
the news conference, play that back at the earliest opportunity
following the news conference. A Change of Shift News Con-
ference should begin within the next few minutes. At 9 hours
19 minutes, this is Skylab Control.

END OF TAPE ✓

SL-II MC1199/1

Time: 04:45 CDT, 26:09:45 GMT

6-19-73

PAO This is Skylab Control at 9 hours 45 minutes Greenwich mean time. We're about 5 minutes away from acquisition at Ascension. During the news conference, we accumulated about 3 minutes 20 seconds worth of tape. We'll play that now.

MCC And, Skylab, we've got you stateside now for - oh, something like 6 minutes on this pass and then we have a short break and we'll be picking you up at Mila.

PLT Okay. We're all the bedroom (garbled) the LCG's on.

CC And we're about LOS here at Goldstone. We'll be picking you up over Bermuda at about 09:33.

CDR Okay.

CC I bet you wouldn't have even missed us.

CC And we've got you over Bermuda now for the next 10 minutes.

PLT Roger. You got any words for us, Rusty, on why we didn't get the EVA-1 warning when we turned on the SUS pump?

MCC Stand by. I'll find out.

CDR The only thing we can think of is that we're not on by pass.

MCC Okay. Our conclusion is, we've seen it before and we just assumed since the last time we saw it, that it's inoperative.

CDR That's funny that it went inoperative in both loops, even though we're not using SUS 2 (garbled)

MCC That's a good obs. Stand by.

MCC I guess our assumption on that is that if you activated the SUS this morning on 317 rather than 217 that it should have worked and since it didn't, it looks as though we don't have caution and warning there. That it's in off and we understood that your call was - that both loops did it, referred to the last time, since we only activated one loop this morning.

CDR Roger. When I did the housekeeping, whatever it was, way back in the old days that circulated those two systems through the 317 and the 323 panel, I got the caution and warning just like I was supposed to every time I went from primary to secondary, and to off, to on, and so forth. Of course, that systems housekeeping procedure we've never seen the EVA caution since then.

MCC Okay. We'll keep a look at the loop this morning on the station contacts, but it looks like no sweat.

MCC Skylab, Houston. We've got about 10 seconds to LOS. We'll be picking you up over Ascension at 09:50 which is about 6 minutes from now.

CDR Okay.

END OF TAPE

SL-II MC-1200/1
Time: 04:48 CDT, 26:09:48 GMT
6/19/73

PAO This is Skylab Control at 9 hours 48 minutes Greenwich mean time. That's the end of the tape. And we're about a minute to acquisition at Ascension. We'll stand by for acquisition there.

CC And, Skylab, we've got you over Ascension here for almost 10 minutes.

CC Skylab, we've got you over Ascension here for about 9-1/2 minutes.

CC Joe, you might want to switch your - your TV selector there to TV before you use the VTR. And, in fact, you could go ahead and rewind back to the beginning there to give us the full tape if you want it - or make the full tape available to yourself.

MCC And, Skylab, we've got about 30 seconds to LOS here at Ascension, and we'll be picking up Carnarvon at 10:22.

PAO This is Skylab Control at 10 hours Greenwich mean time. Ascension has had loss of signal. Carnarvon will acquire in about 22 minutes. The extravehicular activity officer here in the Mission Control Center estimates that the crew, based on present preparations, could start the EVA about 1 hour early. That is by no means firm, but the estimate is that the EVA could start approximately 1 hour early. At 10 hours 1 minute Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1201/1

Time: 05:20 CDT, 26:10:20 GMT

6/19/73

PAO This is Skylab Control at 10 hours 20 minutes Greenwich mean time. Skylab coming up on the Carnarvon, Australia station. The crew in preparations for the extra-vehicular activity. Over the last station they were well ahead of the timeline, and the estimate was that they could be in the EVA as much as an hour early. We'll stand by for the Carnarvon pass.

CC Skylab, Houston over Carnarvon for about 10-1/2 minutes. And we're seeing data on the PCUs.

SPT Roger, Houston. EV-1 and 2 are in the LS - or in PCU checkout and I'm about to configure CSM count.

CC Roger.

PAO This is Skylab Control. PCU is the pressure control unit for the astronaut life support assembly.

PLT Now.

CDR Okay, you ready for the rest of this?

PLT Yeah.

CDR All right. We went to both. We verified O2 flow, reg 1 low flow light is OFF.

PLT Yeah.

CDR Low vent flow light is OFF.

PLT OFF.

CDR And lower SEVA protective visor - we can check that.

PLT Okay.

CDR That's your outboard one.

PLT All right.

CDR Okay. PCU checkout. No tough gauge accuracy. Plus/minus 0.15 PSIG MAG nominal plus/minus 0.04. Reg 1 low flow and low vent flow light's at 5 seconds away. Go to REG SELECT - REG SELECT to REG 2.

PLT Okay. REG 2.

CDR All right. You should get a REG 1 low flow and a possible low vent flow.

PLT Okay, I got a REG 1 low flow.

CDR I did too. No vent flow yet.

PLT Right.

CDR Okay, now - mode select Delta-G.

PLT If I can get it in here now (garble). Okay.

PLT I'm going to get back in the foot restraint (garble). You can read your checklist from there, right?

CDR Yeah.

PLT Does the light go out?

CDR Huh?

CDR No, the REG 1 shouldn't, we're on REG 2.

PLT Yeah, but I'm looking for when this light goes out.

SL-II MC-1201/2

Time: 05:20 CDT, 26:10:20 GMT

6/19/73

PLT 831.
CDR Yeah. Out to (garble). I'm sure glad you can modulate this valve. There, mine was out at 3.
CDR Okay, mine's over at 34, and mine is out and I'm stable 34. Okay?
PLT Yeah, I'm stable at a little over 34.
CDR Okay, verify (garble) 3235. Now, press selector REG 1 and REG 1 low flow light should go off.
PLT Okay, REG 1. I got a (garble), I just lost - there it comes.
CDR Yeah, I got all vent flow and a SUS PRESS light and I - now it's all off.
PLT Okay, I have a clean board.
CDR I lost a lot of pressure (garble).
PLT So did I.
CDR Yeah.
PLT I was cycling. It's doing that hunting now.
CDR Yeah.
PLT Whee, that'll do something to your ear.
CDR Yeah.
CC Talking about doing things to your ears, we got you here on VOX.
CDR Roger. Okay, we're - we're on REG 1, Rusty.
Off STABLE now 38.
PLT Off STABLE at 37.
CDR Okay, now, press select. Both verify no change in cuff gage at this point.
PLT That's - -

ENDOF TAPE

SL-II MC-1202/1

Time: 05:28 CDT, 26:10:28 GMT

6/19/73

PLT Transfer - -
CDR Okay. I'm at 38, I've got no change here.
EMU integrity check. You ready for that.
PLT Yeah.
CDR Okay. Next sequence terminates O2 flow to PGA.
(garble) I will flow, and LOW VENT FLOW lights will light. On our
cuff gage for max decay of 0.8 PSIG., Your doo-dads are check.
You're the only one that hasn't, on account of that valve in your
helmet. So are you - Now let me read it through once for
you, and then we can get going. Hey, Joe are you on the line?
CDR Joe.
SPT Still here.
CDR Okay. What we need is - I need you to
time one minute for me when I tell you.
SPT Yes.
CDR Okay. Now the first thing we're
going to do, Paul, is FLOW SELECT OFF and then immediately
go PRE-SELECT OFF for one minute. And you'd want to check
the decay. Okay?
PLT Yep.
CDR All right. First, FULL SELECT OFF.
PLT You doing it now?
CDR Yes.
PLT Joe ready?
CDR Yes. All right.
SPT All right.
CDR Okay. MARK, 1 minute.
SC Some reason I wound up in 39 by the time
I got shut off.
PLT Mine came up a 10th also - to 38.
CDR I think that's from closing the (garble).
PLT (Garble)
CDR Yeah.
PLT (Whistle) I can whistle all right at
8-1/2 PSI.
CDR Uh-huh.
PLT (Whistle)
CDR Easy.
PLT Looks like I've got a fairly tight suit.
I've lost about a 10th.
SPT I've lost less than a 10th. Now I've
lost 0.08, I guess.
CC MARK. Your minute is up.
CDR Okay. PRE-SELECT to both.
SC Okay.
CDR And then FLOW to IVA.
PLT Oh, that feels good.

SL-II MC-1202/2

Time: 05:28 CDT, 26:10:28 GMT

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CDR Okay. We passed that check. Cuff gage stable, 36 to 39, all lights off.

PLT Yep. I'm back at 37. All lights are off.

CDR Okay. You can go back to - -

PLT ABSOLUTE

CDR ABSOLUTE and you're going to get a (garble) suit press at 31 to 28.

PLT Okay. I'm going to modulate this one also.

CDR Okay.

CDR Good.

PLT Mine are super.

PLT What I was telling Pete earlier, Joe -

I'm sure glad we got - you can modulate this mode switch.

CDR You can thank the sky prince down there on the ground for that.

PLT Yeah, thanks.

CC (garble) again.

PLT Your books say - -

SC Didn't work so good going to ABSOLUTE. (Chuckle)

CDR Okay. I've got a SUIT PRESS light.

PLT So do I.

CDR I had a REG 1 LOW FLOW and it went off and a LOW VENT FLOW and it went off. Okay. Now notify EV-3 that the EMU integrity check is complete. Be so notified, EV-3.

SPT (Inaudible)

CDR No. The EV-3 will read all procedures from here to ALFA deactivation following EVA temporary stop. EV-1 and 2 post cue cards. And we're ready - Hey, let me ask you a question first, Joe. Have you put the VC-3 in?

SPT No, I (Inaudible).

CDR Oh. I thought it was the VS. Okay. Very good. Okay.

SPT (Inaudible)

PLT Looks like we missed the DAC.

CDR I'll get it. I'm just looking at it. I'll go get it right now.

PLT All right.

CDR It's on.

CDR It's off.

PLT One verified.

SPT (Inaudible)

CDR No, (garble). You're not really. Paul.

PLT Because I'm coming, and you ain't there.

CDR Paul. Now watch - when you get up there, it's very important - I'll keep - -

SL-11 MC-1202/3

Time: 05:28 CDT, 26:10:28 GMT

6/19/73

PLT Yeah. Go on to your umbilical.

CDR Umbilical, right.

PLT Okay.

CDR You're clear.

PLT Back down, then.

CDR That's mine you're stuffing away.

PLT Yeah.

CDR You know that.

PLT Okay. The wrong one.

CDR No. EV-1. That's me, EV-1 comes up.

CDR No, no, it's nine, or six.

CC Okay, Skylab. We're going to lose you

here at Caruarvon. We'll be picking you up in about 3 minutes
at Guam.

CDR Okay. Bye.

PLT I'm EV-1, Joe.

CDR It's in. Yeah. Oh, I may have done

that inadvertently.

SPT (Inaudible)

CDR No you - -

END OF TAPE

SL-II MC-1203/1

Time: 05:33 CDT 26:10:33 GMT

6/19/73

CDR (garble) they had done that inadvertently.
PLT Okay. All right, I see where you stand.
PAO This is Skylab Control at 10 hours
33 minutes Greenwich mean time. Carnarvon has had loss
of signal, and Guam will acquire in about 2 minutes. Pete
Conrad and Paul Weitz are on the voice operated microphone
mode while they are going through the checkout of their
life support system. Paul Weitz tried a little whistling,
after which Flight Director Milt Windler instructed the
corollary experiments officer that he could log that whistle
as an unscheduled experiment. We'll continue to stay up
through this short LOS until we have acquisition at Guam.
PAO This is Skylab Control.
CDR All right. Now wait a minute. I don't
want to do that.
SPT There ain't no way you're going to get
around it.
CDR Why?
SPT How else are you going to switch the
whole thing?
CDR Well, you just - Oh, no, you're right.
Yeah, never mind, never mind. Yeah because - I forgot, we
got to turn off electrical power and everything else.
SPT Yeah.
CDR Okay. Let's go the way we were. I'll -
I'll just - -
SPT Here, let me just stow these umbilicals.
CDR All right. Even - -
SPT Here, I'll hold it. Give it to me. Tearing
up my checklist.
CDR All right, hold it.
CDR On the back can I get the - -
SPT What?
CC Skylab, Houston, we've got you for about
9 minutes over Guam. And when you get done with what you're
doing there, we'd like to know what it was, so that we can
track who we've got on what we've done here.
SPT We didn't do anything.
CC Okay, so understand you're going to be
running on the - out of different spheres.
SPT Yeah, that's right.
CC Okay.
CDR Now wait. Too many people are talking
again. Let me just talk to - Wait a minute. Let me talk
to Rusty a minute. Rusty, yesterday I hooked up the umbili-
cal that I used the other day, so we are in fact backward.
Okay?

SL-II MC-1203/2

Time: 05:33 CDT 26:10:33 GMT

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CC Okay. So you're coming out of the EV1 sphere, and Paul is coming out of the EV2 sphere. Is that correct?

CDR We talked about the hatch and there is no problem there.

CC Okay, we dropped out there unfortunately, Pete. We understand that you are running on the EV1 umbilical and the PLT is running on the EV2 umbilical. Is that correct?

CDR Yes, that's correct.

CC Okay.

CDR Everybody understand who is on first now?

CC Rog.

CDR Okay. Now go ahead, Joe.

CDR The hatch handle is in open. Now the other handle, the release handle, is in lock.

PLT Yes, it always goes to lock.

CDR Okay. Now I'm going to unhook it from the wall. Next. Now I'm coming. Next. Next, I'm to unlock the release handle. Right, Paul?

PLT Yes.

CDR Okay.

CDR Okay, equalize pressure. Now wait. What did you say about unlock the handle? Okay. Now close. Good, yeah, to lock. It is?

PLT Yeah.

CDR Did it kind of ratchet when you closed it, Paul?

PLT I don't remember.

CDR Okay.

PLT All right.

CC And, PLT; Houston. If you've got a second there, it's no big deal, but we're not getting very good biomed. If you can sort of press on your sensors through your suit, we'd appreciate it.

PLT How's that?

CC That sounded great. I'll tell you what it looked like.

SC Hey, (garble)

CDR Okay. Just around your neck (garble).

Okay, that's good.

PLT Are you getting TV, Houston?

CC Say again.

PLT Are you getting TV?

CDR That's right there.

CC We saw while you were pressing on them,

but it then dropped out. So if you want to hold yourself all through the EVA, you can. But we'll give you a choice of letting go.

SL-II MC-1203/3

Time: 05:33 CDT 26:10:33 GMT
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PLT We asked if you were getting TV - television.
CDR They're not over the states.
PLT I was just telling them what Joe asked.
CDR Yeah, I know.
PLT Rog.
CDR Okay.
CC And for Joe's information, we pick up
real time at Goldstone at 11:02. So that's about another
20 minutes away.
SPT Okay, we ought to be - -
PLT I'm sorry. I was wondering why I turned
around in here. Now I know. No.
CDR You've got to hold it until we get the
hatch closed.
PLT Well, my concern was whether I could reach
down here with it on.
CDK Rusty, are you there?

END OF TAPE

SL-II MC1204/1

Time: 05:42 CDT, 26:10:42 GMT
6/19/73

SPT Well, my concern is whether I can reach
down here with it or not.
CDR Rusty, are you there?
CDR Houston, you there?
CC Go ahead.
CDR Okay, I checked that S054, it's okay.
CC Okay, thank you.
CDR All right, now let me just stop one second.
I got the brush, I got the hammer, I got a VC3, and I got a
VS3, and I got a EV1 and a EV2 and a lock. Is that right?
Now if it's good come on in with it.
CDR You better take that cue card off the door
First, Joe.
SPT No, it stayed on your side.
SC Excuse me.
CDR No, the other way.
SPT This end, this end. That's it.
CDR Now be careful you're not knocking my paint
brush off the handles, are you? You're banging the VS3, okay?
SPT Yes, I hope not.
CDR Now wait let's see. Yeah, he's got it up
over the roller. Right?
SPT I'm not sure which it is. Yeah, that's right.
Okay.
SC (garble)
SC It's (garble).
SPT REG 1. Okay.
CDR Okay.
SPT Okay, going to Delta-P.
CDR How the old ears are doing? Good?
SPT Good.
CDR Okay.
SPT Come off the peg. Two (garble) out at 3.0.
SPT (garble) it'll open up once the egress starts.
CDR Yeah.
SPT Okay, EV1 has a good pressure; just a
tad under 37, and on 38.
CC Okay, Houston, we're going over the hill
here at Guam and we'll be seeing you at Goldstone at 11:01.
CDR Roger, 11:01. Bye.
CC Bye to you.
SPT Roger. Houston, do you read EV3?
CC Yes, sir, I do.
SPT Okay, just to check. Thank you.

SL-11 MC1204/2

Time: 05:42 CDT, 26:10:42 GMT

6/19/73

CC And be informed, we are GO for hatch opening.
CDX Okay. Thank you.
PLT EVI's in GO.
CDR All right.
SC (garble)

PAO This is Skylab Control, at 10 hours 46 minutes Greenwich mean time. Guam has loss of signal. Goldstone will acquire in about 15 minutes. Skylab was given a GO for hatch opening for the extravehicular activity just before we lost contact at Guam. The hatch was not open when we lost data. Crew still conducting pressure integrity checks on their suits. Paul Weitz will be EV-1, Pete Conrad EV-2, and Joe Kerwin, EV-3. Ker - Conrad and Weitz will perform the EVA - emerge from the airlock. Joe Kerwin will remain inside the multiple docking adaptor, monitoring systems, perhaps operating the TV camera through one of the windows. The actual film retrieval will be performed by Pete Conrad, with Paul Weitz assisting. We'll come back up just prior to acquisition at Goldstone. Goldstone due to acquire in about 13 minutes now. At 10 hours 48 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1205/1

Time: 05:58 CDT 26:10:58 GMT

6/19/73

PAO This is Skylab Control at 10 hours 58 minutes Greenwich mean time. Skylab just about within range of the Goldstone antennas now. Skylab will cross the coast of the United States in the Seattle, Washington area, and should be visible to the residents of that area at this hour of the day. The clock being used to time the extra vehicular activity has started. It now reads 6 hours and, I beg your pardon, 6 minutes 42 seconds. That is a guess however. We do not know what time the hatch opened or in fact whether it is opened yet. However, this is an estimate based on where the crew was in the procedures when we had loss of signal at Guam. We are configured to bring in any television that might be forthcoming on this pass over the United States. And management officials are beginning to assemble in the Control Center. Dr. George Lowe, the Deputy Administrator here, Dr. Christopher Craft, the Director of the Johnson Space Center, Mr Leland Belew, the Skylab Program Manager at the Marshall Space Flight Center, Dr. Bill Schneider, Skylab Program Director from NASA headquarters, and Deke Slayton, Donald K. Slayton, Director of Flight Crew Operations at JSC. We should be acquiring right now. We'll stand by.

PLT - - hanging on the - -

CDR You're sitting on the boom. You've got to go underneath them slightly.

PLT Well.

CDR There you go. You're clear slightly.

PLT Yeah.

CDR There you go, you're clear. No.

PLT Okay.

CDR All right.

PLT I want that one just like that.

CDR Okay, coming at you. Great. Got it?

PLT Yeah.

CDR Now hold on to it.

PLT All right.

CDR Now, the (garble)

CC Skylab, we've got you over the states now

for about 16 minutes.

CDR Let me get it off.

PLT Wait, wait, let me.

CDR Huh?

PLT Let me put it on, and then I'll check it.

CDR Well, tell me what to set it - do you want it yellow or red? No, yellow or red.

PLT That's - doesn't it give a different color
Okay, fine.

SL-11 KC-1205/2
Time: 05:58 CDT 26:10:58 GMT
6/19/73

CDR Fine.
CDR Man, when they said EVA, they weren't kidding.
PLT (Laughter)
CDR (Laughter)
PLT That's beautiful. It goes on F6, Joe,
right?
PLT Now I see it. Walk toward EV1, that's
my film.
CDR Okay. Red is to red, right? All right,
now what speed? 1500.
PLT You're going to have to set this again
I'm sure.
CDR I mean you want it at infinity? Yeah,
you got that and a one (garble) 6/5, ready for the camera.
PLT Yeah.
CDR All right. They done hung up.
PLT Huh?
CDR I've got to get down. Let me get down.
(garble) hanging out there.
PLT You're out of there, great.
CDR I don't want to that way. There we go.
PLT Okay.
PLT The (garble) goes which way?

END OF TAPE

SL-II MCI206/1

Time: 06:04 CDT, 26:11:04 GMT
6/19/73

CDR Okay.
PLT The trigger goes which way?
PLT Oh. That does help.
CDR Yes, you're going to put it on the outside
rail there. That's it. Can you see where the silver tape
is, right below the clip?
PLT Yeah.
CDR Those line clips, that's where it goes.
Okay, my boy.
CDR Look at that, man. Are we sliding down
the terminator.
PLT Well, wait a minute.
CDR Lincoln said I'll see you later, as we
slipped along the terminator. How's that? (laughter)
CDR Where are you going there?
PLT I'm trying to get this thing on.
CDR (laughter) That's the one thing I always
said in training was going to cause us more trouble more
than anything else.
CDR Side down, backwards, hanging out and
that a boy. Yea, yea. Now you better - after that smashing
around you better check red to red.
PLT Okay. I can't see the other one. Those
are red to red.
CDR Yeah.
PLT All the settings are on the bottom.
CDR Yeah.
PLT That's clever.
PLT (garble) up 1 and 1/500.
CDR And 6 fifths.
PLT Six fifths.
CDR Okay.
PLT Okay, hold it until I get back in.
CDR Okay.
CDR Okay, here I come.
SC (garble)
PLT Don't fall. That's a long way.
CDR Now tie it. That worked pretty slick.
CDR Boy, it looks like a long way down to the
Earth. Hi, there.
PLT You know why?
CDR Why?
PLT It is a long way down.
CDR I guess you're right. All right I'll keep
on going.

SL-II MC1206/2

Time: 06:04 CDT, 26:11:04 GMT
6/19/73

PLT Look at the Sun hitting the tops of those clouds; just the tippy top handle.
PLT Where are we, Rusty? What part of the ground are we over?
CC Oh, try something like Montana.
PLT That's what I figured. I think I can see some of those big lakes up in Canada around Winnepeg.
CDR Oh, boy, is this translation super slick. The big water tank in the sky (laughter) (garble) is almost to become a water tank in (garble). Whee.
PLT Okay, I'll hook your umbilical.
CDR Wait, I want to look at the CBRM 15.
CDR Okay, wait.
CDR Okay, it's - Joe you better get the drawing out. Let's see, there's three CBRM's here and it looks to me like it's the furthestest to my right and the closest to the Sun end.
CC That's correct.
CDR All right, that's correct. And Rusty, you want me to hit it at the bottom of the leg that has all the screws sticking out. Is that right?
CC Stand by, let me get my little picture here.
CDR Get your little picture. It's not exactly the way I pictured it.
CC Okay, the upper - If you were standing in front of it, it's the upper lefthand portion of it that's raised. Is that correct?
CDR Yeah.
CC Okay, if you start at the screws on the upper right hand corner of that upper portion - -
CDR Uh, huh.
CC Okay, you come down three screws and you hit the corner and you turn to your left and you go one screw and that one's the one you pound on.
CDR Hold it, you just lost me.
CDR The - the upper right is away from the Sun end.
CC That's correct, and you come toward the Sun end three screws. That takes you down that first short leg.
CDR On it.
PLT Yeah. (garble) one screw to the left. See?
CC Right.
CDR I see. I got it. All right, now.

SL-II MC1206/3

Time: 06:04 CDT, 26:11:04 GMT
6/19/73

CC And that's the one you pound on.
CDR Yeah. Okay, I'll do that last. What's
next? Let's go on the checklist. I got to clamp my LSU.
PLT Yeah.
PLT No, not yet. I thought you said you wanted
to do that last.
CDR Yeah, I want - -
PLT Yeah, I know.
CDR Okay, go ahead and pass me the hammer. I
can't clamp my LSU then because I'm going to have to go around
it.
PLT All right.
CDR Okay.
PLT Let me clamp your LSU up here.
CDR Okay.
CDR Oh, look at that neat SAS panel. Oh, and
there is the - -

END OF TAPE

SL-II MC-1207/1

Time: 06:09 CDT 26:11:09 GMT
6/19/73

CDR Oh, look at that neat SAS panel. Oh, and there is the orange sail. Oh, I see what's the matter with that sail. That's why we got the hot spot on the wall. Joe, you're absolutely right. The one rod didn't, the aft rod didn't extend fully. Yeah. I'll tell you we could --

CC We got you, go.

PLT Are you ready for the hammer, Pete?

CDR Yes.

CC Go ahead, Joe.

SPT Okay, Rusty. I'm on the step where I turn the reg on and then I go charge around and verify the batteries are charging, and immediately turn the reg off. It's not discharging, it's at zero, essentially zero.

CC Okay, Joe, we got the checklist here. And we dropped out just a second there. Understand you got the REG ON, and the charger switch ON, and it did not discharge when you turned the charger switch on.

SPT Okay since then, it reads a hair below zero just like normal.

CC Okay, and then you went charger OFF.

SPT Well, the first time I went charger ON, and it dropped to minus 5 amps momentarily, and then to zero, and I hit charger OFF. Now I have REG and charger on - I have the charger in BAT - status lights in zero on the amps.

CC Okay, stand by.

SPT I just went through the cycle again. Go ahead.

CC Okay, if you turned the REG off after you saw the discharge there, that's just right, and we're ready for Pete to dash on.

SPT Okay. No, wait a minute because I've got it again, Rusty. Should I just go through it, go through the steps again. Ignore the responses, and will that get us to a ready configuration?

CC Okay, as long as you turn the REG on, the CHARGER ON, and then the REG OFF, then we're ready.

SPT Okay.

CDR I've got to get to it first. Just a minute. Okay Paul, tell me that I'm staying clear of --

PLT Yeah, I will.

CDR (garble) when the Sun is great.

PLT I will, I'll tell you.

PLT Hey, Pete, if you're going to go further, I've got to give you more umbilical.

CDR I can almost reach it. Ail right. Okay.

SL-II MC-1207/2

Time: 06:09 CDT 26:11:09 GMT
6/19/73

PLT I'll tell you when he hits it, Joe.
PLT There it goes. Yeah. Boy is he hitting
it. Holy cats.
CDR All right, did anything happen?
SPT Houston, EV3. He hit it with the hammer.
I had no (garble) I turned the charger on, and I'm getting
a lot of amps plus on the battery. Do you want to have
a look at it?
CC Okay, that's good. It worked, thank
you very much gentlemen, you've done it again.
PLT How about that.
CDR I can't believe it.
PLT I can't either.
CC How hard did you hit it?
CDR Pretty hard.
PLT Yeah, he hit it pretty hard.
CC That's what it takes. The old Army
technique wins once again.
PLT It's still hanging on, the ATM is still
whipping around, but it will settle down soon.
SPT Rusty, EV3
CC Go ahead.
SPT I got a REG light on that CBRM now showing.
Command the REG ON or are you happy with the present configu-
ration?
CC Stand by just 1, I'll check with EGIL.
SPT Thank you.
PLT Let me get rid of the hammer for you,
Pete.
CDR Yeah, just a second, let me get locked
back in here again. Okay.
CC Okay, we'd like to leave it the way it
is, EV3. Just leave it with the REG off.
SPT Okay, just keep us posted on your desires,
and we'll press on.
CC Okay.
PLT Watch the boom.
CDR Okay, stand by, stop.
PLT Got it.
CDR Yeah.
CDR Okay.
PLT Okay, EV1 is at 365, no light.
CDR Okay. EV2 is at 370, and while I was
just finishing pounding why - I had a flow dropout and
back on again, but I think that was - -
PLT I'm getting that too as I move around
up here, Pete.

SL-11 MC-1207/3
Time: 06:09 CDT 26:11:09 GMT
6/19/73

CDR

Okay.

PLT

You ready?

CDR

Yeah, retract it.

SPT

All right, let me read you the next step
while you're retracting- -

END OF TAPE

SL-II MC-1208/1

Time: 06:14 CDT, 26:11:14 GMT
6/19/73

CDR Okay. You ready? I can't retract it.
PLT All right. Let me read you the next
step while you're retracting it, which is center boom, extend
1 foot, deploy the boom hook and verify that the boom hook
is unlocked. That may already be done.
CDR Yep. It will be.
PLT All right. Just a minute and I'll
catch up with you when you get there. Okay.
CDR Knocked a little paint off the CBRM, but
I guess it was worth it.
CC Hold on, I'll check with EGIL.
CDR Okay. We're 50 percent done now. If I
can find a 1-millimeter speck on D-1, we've got it made, huh?
PLT Why don't you clamp your umbilical, Pete?
CDR Okay. Yeah. Let me do that.
CDR How's that?
PLT Okay. (Garble).
CDR (Garble). Wait. I didn't give myself
enough. Ahh, come on.
PLT Yeah. They work like they always have.
CDR Yep. But I'll tell you. The big water
tank in the sky is the way to do it. Hey, Kusty,
while he's doing that, let me tell you something about this
sail.
CC Okay. We're listening.
CDR It needs to be rotated. We'd get a little
better cooling on the upper part if we rotated it - (Chuckle)
How am I going to tell you?
PLT Looking from the inside out.
CDR Looking from the inside out, we want to
rotate it - it looks to me like counterclockwise, approximately
15 degrees. And that would cover the top end of the goal that's
exposed. And it would also pull more of it over the
bottom end, where it's not fully deployed. And I really
recommend that we do that.
CC Okay. We copy.
CDR That's why that water tank ring is hot,
then cold underneath, and then hot again, Paul.
PLT Yeah. Do you want it to go - If you look
down there, it's more on your right side.
CDR As I look down there, it's more - It's
looking at me?
PLT Yeah.
CDR As I look that way, which is minus X - -
PLT Yeah.
CDR It should rotate this way, which means
it's low on the right hand side.

SL-II MC-1208/2

Time: 06:14 CDT, 26:11:14 GMT

6/19/73

PLT Okay.
CDR Yeah. Should go counterclockwise about
15 degrees.
PLT Okay.
CDR That would really do the trick.
PLT All right, Joe. I'm ready - the VC - what
do we put on there first?
CDR What am I flying over, Rusty?
CC You're flying over the chain of islands
just north of the Dominican Republic, now.
CDR Oh, yeah. I recognize it.
SPT You getting TV, Rusty?
CC Yes, I do. And EV-3, for your information,
we're going to be going LOS here in about a minute from now.
So if you do not want the TV on the VIR, you can turn it off.
SPT Roger, roger. You ready, if I read, to
send it down? Yeah.
CC EV-3, in fact, we have stopped the tape
recorder. You have 14 minutes left on it, so you can turn
it on when you decide you've got something worth looking at.
SPT Okay. (Garble).
CDR Well, it's off about 4 inches, but that's
good enough, we'll go with that.
SC Very nice.
PLT Okay. (garble) Let us get it stopped Joe.
SC Rusty, this boom is really working the
switch.
CC That's probably because of the improved
water conditions up there.
CDR Okay. Stop.
CDR No, wait a minute. Paul, back it up
a little. I'm going to have to go back in there. Yeah.
Okay. Stop, that's good enough.
SC (garble) we supposed to (Garble).
CDR (garble) clock, release, pull.
SC Yeah. Okay. Stand by.
CDR Okay to (garble) - boy, the canister
rolls these - these - rocks easily.
PLT Does it?
CDR Yeah. All right, go ahead.
CC Okay. We're going to pick you up again
at Carnarvon at 12 on the min - on the hour.
SC Twelve? We've got to stop for lunch, then.
CDR Do what?
CC That's the people at Greenwich that do
that - not you guys. Press on.

SL-II MC-1208/3

Time: 06:14 CDT, 26:11:14 GMT
6/19/73

PAO This is Skylab Control at 11 hours 19 minutes Greenwich mean time. Bermuda has had loss of signal. Next station to acquire is Carnarvon in 41-1/2 minutes. EVA going very successfully so far. Pete Conrad was successful in konking that charger battery regulator module number 15 with the hammer. That battery is now charging. That'll provide about 240 more watts to the power reservoir. The next task is to retrieve the film from the six Apollo telescope mount experiments, S054, the X-ray spectrographic telescope, S056, the X-ray telescope S052, the white-light coronagraph, the H-alpha experiment, which does not have a number; and S082A, the X-ray ultraviolet coronal spectro heliograph; and S082B, the ultraviolet spectrograph. Pete Conrad will also use a lens brush. You may have heard him refer to his paint brush awhile ago. He was wondering where it was. - -

END OF TAPE

SL-II MC-1209/1

Time: 06:21 CDT 26:11:21 GMT

6/19/73

PAO You may have heard him refer to his paint brush a while ago, he was wondering where it was. That's the lens brush that he will use to clean the occulting disk of the S052 experiment. He is scheduled to do this just before retrieving the S082 experiment. There appears to be a piece of contamination about 1 millimeter in diameter on that disk. It causes a bright spot at the 4:00 position. And it's believed that brushing it with the lens brush will dislodge the contamination and clear the disk. He will also velcro a piece of material from the standup EVA sail, which was not used, an 18 inch square piece of material to one of the ATM struts. This material is the same as that in the parasol. And it will be used as a test piece of material to check on deterioration of the material, not by this crew but will probably be retrieved by the Skylab III crew. This crew cut this piece of material from the sail and then, using a needle and thread available in their pressure garment maintenance kit, sewed some velcro to it. Following that, they will begin the ingress back into the airlock module. We'll have to stand by for another 37 minutes to find out how things have gone. Pete Conrad believes he has discovered what is causing the hot spot. He reported that it looked to him like the aft rod on the parasol was not fully extended. He recommends rotating the parasol counterclockwise, as you're looking at it from the inside out, as he put it, about 50 degrees and he thinks that will fix the situation. And he recommends that they do that. We'll come back up just prior to acquisition at Carnarvon. At 11 hours 24 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1210/1
Time: 06:33 CDT, 12:11:33 GMT
6/19/73

PAO This is Skylab Control at 11 hours 33 minutes Greenwich mean time. The flight surgeon measured metabolic workloads during that pass over the United States as 1200 British thermal units for Pete Conrad, 1500 for Paul Weitz. Conrad's high heart rate was 130. He averaged about 120 during that EVA. Although, when resting, it would drop as low as 80 according to the flight surgeon. Flight surgeon estimates that the high of 130 came when he was pounding on the CBRM housing with the hammer. No heart rate information was received on the pilot, Paul Weitz. Apparently the EKG sensor is loose and the biomedical console is not receiving heart rate information on Paul Weitz. The EVA clock shows 42 minutes 26 seconds since the start of this EVA. Start timing is an estimate. We have no way of verifying the time - the exact time of hatch opening. Hatch opening did occur, but out of contact with the ground station. Occurred between Guam LOS and Goldstone acquisition. So we will have to estimate hatch opening at 10 hours 53 minutes Greenwich mean time, or 5:53 a.m. central daylight time. Skylab is still 25 minutes away from acquisition at Carnarvon. We'll come back up then. At 11 hours 36 minutes, this is Skylab Control.

END OF TAPE

SL-II MC1211/1

Time: 06:58 CDT, 26:11:58 GMT

6/19/73

PAO This is Skylab Control at 11 hours 58 minutes Greenwich mean time. Skylab coming up shortly within acquisition range at Carnarvon. The television on the monitors in the News Center is a replay of the television sent down earlier during the last pass over the United States. Have a correction on the number of degrees that Conrad recommends the parasol be rotated counterclockwise. It should be 15 degrees, not 50. 15 degrees rotated counterclockwise as you look from the inside out. We'll find out here at Carnarvon how far along in the EVA the crew is. The smallest of the canisters that Conrad has to remove, that of the S052 experiment, is 7 by 10 by 9 inches. The largest is the S082 experiment, 18 by 9 by 21 inches. S056 is the lightest weight film canister, 18 pounds, and S082B the heaviest at 60 pounds. We're informed that at the end of the manned portion of this mission, there will have been 30,242 frames of Apollo telescope mount film exposed; 30,242 frames. Of that, 13,000 frames is from the H-Alpha experiment. That's the most from any one experiment. The least from any one experiment is the 82A - 194 frames.

CDR Have to turn - yeah. Yeah. Yeah. Okay.

PLT Hello, Houston.

CC Hi there. We're reading you fine and clear, and we got you over Carnarvon for about the next 7 minutes.

PLT Okay, Pete is just finishing up at the Sun end. He thinks he saw and identified the speck on the S052. We did not look at it, of course. That is, we didn't look at the display. And we've been going from experiment pointing back to solar inertial where he works down there, because that whole canister really moves when he's in the XP.

CC Yes, sir. You should definitely be in - in solar inertial when he works on it. In fact, the procedure calls that out, Joe.

SPT Well, I don't think it does, Rusty, but
(garble)

CDR All right. All right, now it's all done. The inside 82B handle is down. The outside 82B door is locked. They're both in the thing. What's next?

CDR Okay.

CDR And two things, Rusty: As he started rotating the canister around - you know all these things we've been seeing on the white light coronagraph?

CC Yes, sir. Go ahead.

CDR Well, I believe they're coming from inside the ATM. Would you go for that? Because as he started rotating the canister with the door open, I actually saw one little piece of - it looked to me like silver insulation, Mylar

SL-11 MC1211/2

Time: 06:58 CDT, 26:11:58 GMT

6/19/73

type or whatever, come floating out of the S052. Okay. Now when I got the S052 around to me, I'd look down in there, and of course - I stand right over it; so that took care of any sunshine that'd back out at me - And in the position that you described, it looked, as best I can tell, like a piece of white thread, if that makes sense. And I guess it does. There is a lot of white cloth around in here. And I believe I got it off. The disc on the outside anyhow is as clean as I can see it right now. And just to make sure, I brushed from inside out 360 degrees around very gently. There was no tendency for any hairs to hang up on it. And as best as I could tell, there were no hairs on it. The brush worked fine, and it remained soft. So I think everythings in good shape, and you can get a look at it later.

CC Okay, fine. Thanks very much. Would you guess what most of those particles are? I understood that at least one you saw looked like illumnumized Mylar, or something like that.

CDR I - I'll - -

END OF TAPE

SL-II MC-1212/1

Time: 07:03 CDT, 26:12:03 GMT

6/19/73

CC Okay. Fine. Thanks very much. Would you guess what most of those particles are? I understood that at least one you saw looked like aluminized mylar, or something like that.

CDR I only saw one piece come out. But I'm thinking that - Look, another thing - when I pulled S052 film container out, there was a little washer floating in there. It was on the container - next to the container. And I picked that up. We have continually run across cutout (garble) rivets floating around inside the spacecraft. And low and behold, I've seen at least one out here floating around. It came floating out of the ATM. So I still think this thing is belching itself of whatever wasn't kept out of it when it was on the ground. It's just slowly - All these things are working their way out. Let me tell you another thing. I believe it was A-quad that I'm looking down at from the VC-3 Station, and the silver insulation, looking plus X to the left side, which is in the Sun, is quite blistered all over the whole side of the service module. You can very definitely tell it's been in the Sunshine for a long time. The quad, itself, looks pretty good, although there is paint blistered around it. But not any more so than on the other quad that I can see. There's white paint blisters pretty well all over the service module, to the point where some of it flaked off.

CC Okay. We got you.

PLT Okay. Pete verified the 82-A, 82-B and the (garble) doors are closed. Rusty, I think it was in the checklist to go back to SI. It was on the second page of that particular change. Sorry.

CDR Okay. All doors are closed except S054.

SPT Okay.

SC Okay. What?

PLT Wait a minute, I ain't got the DAC on yet.

CDR Our biggest problem so far, Rusty, has been that DAC.

CC Yeah. I guess we'd have guessed that, too.

SPT Houston. We got an - an (garble) MALF, probably CMG (garble). We're momentum dumping now.

CC Okay. We'll see if we can give you some word.

SPT Thank you.

PLT Okay. What do you want me to do, Joe?

SPT (Inaudible)

CDR I'm on my way. Here come my (garble).

SL-II MC-1212/2

Time: 07:03 CDT, 26:12:03 GMT

6/19/73

CDR There we go into night too, huh?
PLT Yeah.
PLT I'm going to need some new settings for
this DAC in a minute, Joe, when the sun sets.
PLT Just hold it right there, Pete, until
I change them, will you?
CDR Yeah. I'm in the - I'm in the foot
restraint.
PLT Okay. I'm perfectly comfy.
PLT That enough umbilical?
CDR Wheee, yeah. Is that a pretty sunset.
Upside down. Wheee.
PLT We ought to end the film light on this
thing, we're only 75 percent gone.
PLT I'll try it. Give me some settings.
CDR It's probably jammed.
CDR Happened the last time.
CDR Last time we had one of those end of
film lights - Think I better raise my EV visor, that's one
of the reasons I can't see anything.
CDR Oh, that's pretty.
PLT Okay. F-1.8.
CDR Hey. You're not going to get any more
pictures. I can tell you that.
CC Okay. Joe, be advised; we're reselecting
2 and 3 into Z axis, for your information, on the rate-gyros.
SPT Thank you. I just figured out what
was wrong.
CDR Oh, boy, can I see the lightening on the
ground. Where are we, anyhow?
CC Okay. You're coming up over Indonesia
at the present time.
CDR Ah, it's a thunderstorm. I see three
very bright fires. I wonder if they're oil well fires.
PLT Yes, sir. Yeah.
SC All righty.
SC Okay.
PLT Hey, that lighting is good out here, isn't it?
CDR Yeah.
PLT Why don't you see if you can get ah -
CDK Hold it. That's good. Right there.
PLT Yeah.
CC Okay. We're about to get LOS here at
Carnarvon. We'll be picking you up at Guam in about
5 or 6 minutes.
CDR Okay. You can go ahead and retract it
now, Paul.

SL-JI MC-1212/3
Time: 07:03 CDT, 26:12:03 GMT
6/19/73

PAO This is Skylab Control at 12 hours
9 minutes Greenwich mean time. We have loss of signal at
Carnarvon. We'll acquire at Guam in about 6 minutes. Pete
Conrad has finished up his tasks at the Sun end of the Apollo
telescope mount - -

END OF TAPE

SL-11 NC-1213/1

Time: 07:09 CDT 26:12:09 GMT

6/19/73

PAO All of the film retrieved from the experiments and film resupplied to those experiments. He has cleaned the lens of the S052, the white light coronagraph. He thinks he saw the contamination, said it looked like a little white thread. Reported he also saw other items floating out of that area when he opened the experiment - what appeared to be little specks of mylar. He reported that the silver insulation on the service module appears to be pretty well blistered all over. Some of the paint has flaked off. He reported that the situation around Quad A reaction control system, Quad A did not appear to be much different than the other quads. The paint around that area was blistered, but no worse than the other quads. Temperatures have been running about 20 degrees higher on that quad than we expected them to. The DAC that Paul Weitz referred to that was giving them a lot of trouble is the data acquisition camera. He's recording the EVA activities with this camera. Shortly before LOS, Conrad reported he saw 3 very bright fires. It was over Indonesia at the time. He wondered whether they might be oil well fires. Guam will acquire in about 3-1/2 minutes. We'll keep the line up and await acquisition there.

END OF TAPE

SL-II MC-1214/1

Time: 07:13 CDT 26:12:13 GMT
6/19/73

CDR Ah, hell, ah darn it
PLT Here's my foot.
CDR This is an impossible task. As usual,
it's going to be the toughest one of them all.
PLT Get back on top, I'll grab you on either
side with my feet.
CDR I can't get back up on top. I'm rotated
around now. There, how's that? Gosh darn stuff is
hard to handle out here. It doesn't want to do what I want
it to do at all. Real simple idea. All it wants to
do is stay straight.
CC And Skylab Houston, we've got you for
about the next 5-1/2 minutes.
CDR I wish I knew who kept inventing these
neat little things like putting sails around. It's the
toughest task in EVA. I got it. I got it, I got it all
done.
PLT Don't touch it, don't touch it.
CDR It's like the thermal fan, but it's
(garble). Now, okay, I'm getting out of here.
PLT Let me get back in.
CDR All right. Hold on there.
PLT No, wait.
CDR Wait.
PLT Let me get back up there to the hand
rail.
CDR There we go. Okay. That's the most
work of the whole EVA.
CC Rog.
CDR 3.7, okay, it's on there.
PLT What am I hung up on?
CDR Where - wait.
PLT There, okay, you're in, whatever it was.
Okay.
CDR All right. We've got got 1 light blinking.
Well, I guess that's the - must be the running light, not
an EVA light. Hey, Joe. Can you turn on the docking lights?
Not the docking lights but the - damn lights were on but
no the, you know what I'm talking about, the running lights.
PLT No, I don't think we can. Can we?
Joe, they are on the upper right hand side of the panel
there.
CDR I guess they're tracking and docking I
think. Docking is what I want. See, that's the white light
right next to D024 (garble) - no, forget it. No, that's the
flasher, turn that off.

SL-II MC-1214/2
Time: 07:13 CDT 26:12:13 GMT
6/19/73

PLT Tracking light.
CDR Now, okay, never mind.
SPT Are you ready for D024? Let me get your
umbilical out of the way.
CDR Yeah.
CC Troops, if you want the docking lights
on, we can command them on from the ground if you like.
CDR Okay. Yeah, well, I guess I can read
D024. There's a nice white light mounted on it right?
CC Should be.
CDR Yeah. Well, that's all right, I can
read it. A and B mine like in (garble) Wait a minute,
let me get down there. Okay. Here I go.
PLT Hey, Rusty, post that, remind me to talk
to you about the scorch patterns on the outside of the ve-
hicle here, will you please?
CC Yes sir, we will.
CDR Okay, now what do you want me to do?
Just a second.
PLT Don't I move this back before ingress,
Joe?
CDR Okay, I can move the container, and it's
not stuck. Okay. F7
PLT Yeah, I'd chance that - looks (garble)
CDR All right. It's it open. Okay. My
altitude is a little off there. Okay, I have it in my hand,
samples (garble) Okay. No, not yet.
CC And just for information, it appears
Pete, you may be running a little low on your diverter
there as far as which half is taking out the cooling. And
we've got about 40 seconds to LOS here at Guam. We'll be
seeing you over the states at Goldstone at 12:38.
CDR Okay. It's stowed. Yeah, okay.

END OF TAPE

SL-II M01215/1

Time: 07:21 CDT, 26:12:21 GMT
6/19/73

CDR Whee.
SC Hey, that's one of them.
CDR Okay, now you want the pip pins back in.
Right?
SC (garble)
CDR Get two of them first. Just one of these
deals where you got no foot restraints, you're going one handed,
you know. This thing is (garble). All you had to have done
is put a set of foot restraints there and you'd have had it made.
PLT Well, (static)
PLT You don't need the container?
CDR No, I'm not there yet. Wait a minute.
CDR Just have to diddle around, tries to take you
forever.
PLT Yeah, I know. I've done it.
SC (static)
PAO This is Skylab Control, at 12 hours
22 minutes. Guam has had loss of signal. Goldstone will
acquire in 16 minutes. As we came into acquisition at Guam,
it was apparent that Pete Conrad was having considerable
difficulty attaching that test patch of sail cloth to the
Apollo telescope mount strut. He finally succeeded and then
called it the most work of the EVA. The flight surgeon confirmed
that, said Conrad's heart rate reached 150 during that period.
We appear to be nearing the end of this EVA. Pete Conrad
talked about retrieving the D024. That's the thermal control
coatings experiment. He will bring in one of the two panels
that is out there. The other panel will be left for an
EVA on a future manned mission. With the retrieval of D024
that would wind up the tasks on the EVA other than stowing
the equipment they have retrieved back into the airlock
module and getting themselves and the umbilicals and other
equipment back in. We'll come back up just prior to Goldstone.
At 12 hours 24 minutes, this is Skylab Control.

END OF TAPE

sl-II MC-1216/1

Time: 07:36 CDT, 26:12:36 GMT

6/19/73

PAO This is Skylab Control at 12 hours
36 minutes. Skylab coming up now on the Goldstone acquisition.
We'll stand by for this pass.

PLT You want to take this tree?

CDR Hey, Paul.

PLT What?

CDR The same thing applies here, right?

The OWS is higher than we are, right?

PLT Yeah.

CDR Why don't I just go to open?

PLT Yeah.

CDR Okay. Whenever it equalizes it'll

open.

PLT Yep. I can hear it coming down.

CDR Yeah. I can feel it on my ears.

CC And Skylab, we've got you over Goldstone,

in the stateside pass, here for about 10 minutes.

CDR Roger. We're in up, complete.

CC Okay. We'd like to know if you're through

using the VTR. We're set up for real-time. And ENCO can
dump the tape recorder.

PLT Yes. We're done with it.

CC Okay. And Joe, depending upon what
your time-scale looks like, if we can power up for some VT -
for some S052 white-light to take a look at it, we'd appreciate
that. But that depends on your timeline and we've got a
procedure standing by, if you'd like us to read it to you.

PLT Okay. He's doing post EVA, Rusty. He'll
get back to you when he can.

CC Rog. No sweat.

PLT Okay. They've got a month to look at it.

CC Negative. We don't get the downlink.

CDR Yeah. That's right. We want to verify
that we got that thing off.

PLT You're right.

CDR Yeah. Not at all. The OWS hasn't equalized
yet, anyhow.

SPT Okay, Houston. (Garble), go ahead.

CC Okay, Joe. You can just do it as we're
calling it out, if you want.

PLT Right. Go ahead. I'll relay for him.

CC Okay. We want the fine sun sensor door to
open, and verify that's open and then go into experiment
pointing mode.

SI-11 MC-1216/2

Time: 07:36 CDT, 26:12:36 GMT

6/19/73

CC And following that, we want to - -
SC Wait. Wait a minute.
PLT Are we still dumping?
CC I think that's - Stand by on that. It
looks as though we're about 6 degrees out of attitude,
presently. Hold on - Why don't you just press on and we'll
get back with you?
PLT All right. So the fine sun sensor door's
open.
CDR Paul.
PLT What?
CDR Let me give you the hammer.
SPT Rusty, just as we came up on Sunrise on
this pass, I was looking out the window, and I noticed ATM
go into an attitude maneuver. At the time, I assumed it
was the 3rd dump maneuver, but maybe it overdid itself.
CC Okay. We're looking at it right now.
CDR Where do we go? The suit donning
stations?
PLT Yeah.
CDR Okay.
SC Uh-oh. Go ahead.
CDR Yeah. That's down here. Now, wait a minute.
Do we turn the DAC on? I think so. Yeah, for M151. Well, I'm
half way there. I'm going to rocket over there and turn it on.
Ha-ha. There's some film left anyhow. They want that.
PLT Well, I'm not going to be down there
for awhile.
CDR You aren't?
PLT Nope.
CDR Well, I'll hold it (garble) - -
SC I'll get it, when I get done.
CDR Matter of fact, it's only 15 percent left.
PLT Are you done, Joe?
PLT Well, how about - No, no, no, with
this SO52 thing?
SPT Well, how about staying on my umbilical
then, and I'll go below. Can you put that some place?
PLT Where is the strap it was on? There.
CDR Well, it does say push button on. There's
not going to be much film, but go ahead, when you come down.
PLT All right.
CDR Okay. Rusty, are you there?
CC Yes we are.

SL-II MC-2116/3
Time: 07:36 CDT, 26:12:36 GMT
6/19/73

CDR Okay. My appraisal of looking at the orange on the sail, is that other than slightly flat, it has not lost its original color at all.

CC Okay. Understand. It's just like the scheen has gone off it, but about the same color.

CDR That's my appraisal, yeah.

SC Yep.

CDR Yeah. PRESS SELECT to OFF and doff the gloves.

PLT Okay. Are you supposed to go press select off, first?

END OF TAPE

SL-II HC1217/1
Time: 07:43 CDT, 26:12:43 GMT
6/19/73

SC (garble)
CDR What?
SC (inaudible)
CDR (garble) here with Rusty (garble) we used
a hammer and a feather out there today and did some good with
both of them.
PLT (garble) 2.
CC Okay, Joe, we can proceed on now. We're
back in solar inertial. We - what we did was a CMG reset there
right at the last maneuver. We ended up in the CMG reset
maneuver.
SPT Guess that I can get off.
CDR Yes.
CDR Why is this thing being so stubborn?
(garble)
PLT Okay, to a - Wait a minute. I got Sun, and
I'll go to EXP and I'm there and press on.
CC Okay, just go ahead and point to sun center
and we want to turn the 52 main power ON and the door OPEN.
PLT (garble)
CC Okay, Joe, then after you get the door open,
we want to go the mirror position to TV, the SYNC generator
to PRIME, and the WLC TV power ON.
CC And, of course, we'll need you to select
whichever monitor you bring it up on on the video switch
for us.
PLT I'll select MON 1 cause it's already on.
CDR Well, that wasn't too bad for a couple
of amateur EV-1 and 2s, seeing that's not our regular role.
Now 1 plus 36 sounds (garble).
CC Roger. 1 plus 36 sounds very good to me.
SPT I thought I was especially good in my
new bit part in EV-3.
CDR Plus we had to keep uring him on though.
CDR EV-3. What are you up to?
SPT (inaudible)
CC And, EV-3, we can reset that ACS ALERT light,
if you'd like us to.
SPT That's a CMG malf and no sweat.
CDR Are your switches and doors (garble) Did you
set the DOOR OPEN?
CC Okay, Joe. and we - -
SPT Let's see, you've given us the DOOR OPEN two
times now, and it's - it's going white and then going back to barber
pole. I suspect we may be more 5 or 6 minutes off, although
the fine Sun sensor doesn't think we are.

SL-II MC1217/2

Time: 07:43 CDT, 26:12:43 GMT
6/19/73

CC Okay, Joe. Did you reenable power to the door? I guess that's about the only thing I can think of right off the bat. And how long does it stay white before it goes back to barber pole?

SPT Not too long - 4 or 5 seconds. I did enable the prime to reenable the primer and motor per the procedure, and indeed I have a barber pole talk back, which tends to verify that. Auto door, normal. Main power is on. I've gone from fast scan to standard mode.

CC Okay, and do you have a mirror to - to TV WLC power on? Remember it has a 90-second warmup there, so we may not see anything right away.

SPT Yeah, but that's got nothing to do with the door not - not coming open. The door ought to come open. I'm going to command it closed just to - and it, you know, immediately goes barber pole again.

PLT Why?

SPT No, I'm going to command it open again.

CDR We'll hold at our present configuration.

SPT (garble) in it's stayed white and it's still white in the (garble) (garble)

PLT (inaudible)

SPT It went back to barber pole then, Rusty.

CC Okay. Stand by on it, Joe. Why don't you press on, Joe. Let us take a look at it here, and we'll get back to you.

SPT Wait, wait, Paul - Paul, hold it. (garble) strung out. (laughter)

SC (laughter)

CDR That's funny. (laughter)

CDR I was waiting for you to let go and whistle (garble). (laughter)

CDR Hey, Rusty, you there?

CC Yes, sir, go ahead.

CDR We'll hold right here in our (garble) until you get that S052 door open. I hear another (garble) coming. Don't get too far (garble).

CDR Oh, (garble) serious. Can you get the door?

SPT (garble)

CC I hope that we can disregard that on you.

SPT Hey, Rusty.

CC Yes, sir, we've got you on TV real time right now down there in the OWS. Go ahead, Joe.

SPT I - I've opened the H-Alpha 2, and we are far from being sun centered. So let me manually zero the fine sun sensors, which is what our problem was all along during (garble)

SL-II MC1217/3

Time: 07:43 CDT, 26:12:43 GMT
6/19/73

CDR The wedges get off scale?

SC (inaudible)

CDR Yeah.

CDR I'll tell you - when in SI I get (garble).

When I moved hanging on to that canister.

END OF TAPE

SL-II MC-1218/1

Time: 07:51 CDT 26:12:51 GMT
6/19/73

CDR Canister.
SPT Yeah, the up-down fine Sun sensor is gone stick - sticking on me here, Houston. I'm going to have to drive it way off.
CC Okay, understand you tried to rezero those - the wedges there. We concur with that. Looking at the (garble) Sun sensors they both indicate that you are in fact Sun centered. So, let's try rezeroing, and hopes that works.
SPT Okay. The up-down wedge had that peculiar problem in it where you have to drive it clean off the Sun then back on. And it's coming.
CC All right. There is some suspicion you may be on the back side of the wedge.
SPT I know, but it was stuck before.
CC Okay.
CDR Yeah, we'll get it.
SPT I think we are on the front side now
Houston. Now try to open that door again.
SPT Okay, the door is open, I've got a ready light. I'm centering up. And let me select white light coronagraph. And go to TV position.
CC Okay, we've got it right now. And it looks like it's gone. It looks like a very good job guys.
SPT Of course.
CC There is a little bit of trash floating around out there, but other than that, it looks great. Isn't that something?
CDR Okay, I think there's trash floating around there, because even in SI, when I was out there hanging on that canister, the railing that's on that canister, I moved that canister. And if there is anything loose inside there again - like, I think, when we first saw all those things after docking and everything, we just - whatever was floating around in there we just knocked loose. And I think I should include - -
CC Okay, by the way, Joe, you can go ahead and close it up now and you can take it right back to the configuration it was in, that is SI with all the doors closed, the sink generator off and the WLC power off. And we're about to get LOS here over the states, and we'll be picking you up over Vanguard at 13:03.
CDR Fine.
CC Bye, bye. Good job guys.
CDR Thank you. Pleasant thought. Okay. (garble)
PAO This is Skylab Control at 12 hours

SL-II MC-1218/2

Time: 07:51 CDT 26:12:51 GMT

6/19/73

54 minutes Greenwich mean time. Mila station has loss of signal. Vanguard will acquire in about 9 minutes. The airlock was being repressurized as we first acquired through Goldstone. Pressure was up to about 4 pounds at that time. The EVA clock here is stopped, it shows total duration for the EVA of 1 hour 36 minutes. That's the duration that was passed down from the crew during this stateside pass. We do not have a hatch closing time. The hatch was closed prior to acquisition, but based on crew comments, the duration of the EVA was 1 hour 36 minutes. Also during this pass Pete Conrad gave his appraisal of the parasol. He said that the sheen was gone from the material, but it had not lost any of its original color. We'll come back up prior to the Vanguard pass. At 12 hours 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-1219/1
Time: 08:02 CDT, 26:13:02 GMT
6/19/73

PAO This is Skylab Control at 13 hours
2 minutes Greenwich mean time. Skylab coming up on the
Vanguard, now. We'll stand by.

CC Skylab. We've got you at the Vanguard,
gateway to South Atlantic anomaly, for the next 6 minutes
or so.

SC Roger, Rusty. For your information, the
OWS temperature rose to about 80.5, almost 81. Is that
(garble)?

CC Okay. We think that's probably because
the aft heat exchangers were off. Thank you.

CC And at your leisure, we're sending up a
message here to the teleprinter regarding doing an S183
run later today. And you can breeze over that sometime
within the next hour, and we'll get a pad up to you if you
want to do it. That's up to you.

SC Roger, Rusty. Is that for me to do?
CC I'm not sure who is scheduled - yeah,
it is scheduled for CDR. And it's your decision on it, Pete.
Right now, the message that you're going to get says something
about 17:45. But we think we can probably do it earlier
than that, if you'd like.

CDR Okay. Well, I'd like to give it a try,
if it's running that magazine, because I never did figure out
whether I goofed up by shutting the power off in the middle
of the (garble). I don't think I did, but never did figure out
what happened.

CC Okay. Fine. We'll be ready.

SC (Garble).

CDR That must also be called T027.

CC Okay.

SC Is that correct?

CC Yes, that is correct.

CDR Okay. No - no strain.

CDR We're trying to run it at 23:00.

CDR Got a question for you, Rusty, real
quick, if you've got the photo people there. We used up
the magazine transporter 05 on suit doning. And we've
got to the part where we're just getting ready to do our zippers,
to take our suit off, and I want to know if you want the
rest of that? If so, I think you can use transporter 07
or either the 1 in A2 or A3. And I know that they're
scheduled for something but if you've got some film
for me real quick, let me know before we start, and I'll put
it on.

CC Okay. We'll get right back to you on it.

SL-II MC-1219/2
Time: 08:02 CDT, 26:13:02 GMT
6/19/73

CC Okay. And for your information, we've
got the REG ON in the CBRM 15, and it's looking real good.
CDR Very good.
CC And, EV-3, we're going to go ahead and
set your ACS ALERTER light here. We've got another one
on from a reset routine.

CC Okay, Pete. We've been looking around
and we can't find any film that's going to be appropriate
for you to use. So just go ahead and get out of the suite.
We'll just miss that. And be advised that during the next
dump we expect, because of the momentum situation as it is
now, that we may see another reset routine coming in. So
you can be prepared for that one.

CDR Okay.
CC Okay, Skylab. We've got LOS here at
the Vanguard in about another 15 seconds. And we'll be
picking you up next at - -

CC Okay. Goldstone at 14:16.
CDR Rog. And when's the next EVA?
CC The next one's going to be when you
jump into the water, or at least out onto the carrier. Don't
break your neck.

CC Okay.

END OF TAPE

SL-11 MC1220/1
Time: 08:14 CDT, 26:13:14 GMT
6/19/73

PAO This is Skylab Control at 13 hours
13 minutes Greenwich mean time. Vanguard has loss of signal.
There will be a long LOS prior to acquisition at Goldstone.
One hour and 2 minutes before Skylab is back within range
of a tracking station. The crew has completed a very successful
extravehicular activity, which lasted 1 hour 36 minutes.
The battery is fixed, CBRM 15, providing an additional 240 watts
of power. The brushing of the S052 occulting disc appears to
have been successful. We operated that experiment real time.
Took a look at it through television. The contamination is
gone, no longer visible as a bright spot at the 4 o'clock
position. The ATM experiment film canisters have been retrieved.
A very successful 1 hour and 36 minutes. We'll come back
up just prior to Goldstone. At 13 hours 15 minutes, this is
Skylab Control.

END OF TAPE

SL-11 MC-1221/1
Time: 09:13 CDT 26:14:13 GMT
6/19/73

PAC This is Skylab Control at 14 hours
13 minutes Greenwich mean time. Skylab is coming within
range of the Goldstone station. We'll stand by for acqui-
sition there.

CDR Sorry, Houston, are you there?
CC Rog. (garble). We're here for 11 minutes
over Goldstone.

CDR Okay, I got a lot I want to tell you
about on S054 today.

CC Go ahead.
CDR Okay. The S054 door lock, film door
lock, would not lock. So it's only held by the magnetic lock.
So I unlocked it, and it would no way move after that. And
I tried and tried, and you'll hear it on the late tape. And
I couldn't get it, but I wanted to make sure that I
knew what I was doing. So I was checking the rest of the
doors, and they all work fine. And for some reason it just
decided to bind up in the pins retracting position on that
door so the magnets are the only things that are holding
it. But, they are very strong magnets, so I wouldn't worry
about that door. I don't believe that it is ever going
to open until it's pulled open.

CC Roger.
CC And, CDR, Houston, while we're talking
here - We're currently working on a message which involves
some changes to your day 27 transfers. So in case you were going
to try to get into any of that stuff early, be advised that
that will be coming up.

CDR I couldn't imagine that the day 27 transfers
would go the way they were written.

CC I figured you were thinking like that.
As a reminder to the PLT - he's mentioned something about scorching
on the outside, and he said he wanted us to remind him of
it so he could talk about it later.

PLT Yeah, Crip, the MDA and the thermal cur-
tains, which were formally white, are both very yellow now.
They are very yellow. Not only that, but you can see every-
thing that's between the surfaces and the Sun, because there
is a perfect outline of it. So it must have all happened
in the 28 days we've been here. I tried to get some pictures
of the MDA with the DAC while I was out there. I don't know
if they will come out or not. But - I mean that it is almost
brown it has changed color so much - the MDA, especially around
the STS. And as you go forward to aft on the MDA, the discolor-
ing gets darker.

CC Okay, very good, Paul. We copy that.

SL-11 MC-1223/1
Time: 09:39 CDT, 26:14:39 GMT
6/19/73

PAO This is Skylab Control at 14 hours
39 minutes Greenwich mean time. Skylab coming up on acquisition at Vanguard now. We'll stand by for first call.

CC Skylab, Houston; AOS Vanguard 8 minutes.
SC Okay, Crip. ATM configuration for stowage
is complete if you all want to take a look at it.

CC Okay, Paul Appreciate it.
CC Skylab, Houston. We're in the process
of trying to get you a message up before we leave Vanguard here. It concerns some items that you can add to your shopping list. Today you guys were so efficient and did such a good job in such a rapid pace that we figure you're going to run out of things to do today. We have sent these up. They are to be done, more or less at your leisure, if you can get them in. And that's the priority you should put on them. There - What this one message alludes to a couple of other messages that you don't have onboard. One of them is about updating the day-27 transfers. That's pretty lengthy and we're still working on it. Another one talks about some EREF things for deactivation. Those are not to be done, of course, until we finish up the other EREF stuff that Paul has for today. So those would be later on today.

SC Okay. (garble) S83 experiment (garble)
get to it in just a second.

CC Okay. Fine. Pete, there is one item
that you might need that isn't on there and we would normally send up on the pad. And that is the magazine to use. I can give you that number now, if you want to copy it down for a future reference.

SC (garble) 183 magazine 1-1.
CC That's the carousel. The magazine is
Uniform ALPHA-03, India 15.

SC That's the same one as before, right?
CC That is correct.

CC You probably noted that that is a
different carousel than the one you used last time.

SC That's the original one.
CC That's affirmative.

CDR I think we got to bring both carousels
back, is that correct?

CC That is affirmative.
CC And we did get that message up on the
shopping list. So that's in your teleprinter. Also, there's
one dealing with a little malfunction procedure. We'd like
CDR to run on SU09 later, today.

CDR Okay. I don't know when I'm going to
get to your command module MALF, you sent up last night.

SL-II MC-1223/2
Time: 09:39 CDT, 26:14:39 GMT
6/19/73

CC Whenever you're ready for it, you call
us and we can get to it.

CDR Okay.
CC FLT, Houston. The configuration on the

ATM looks good.

CDR You say something, Crip?
CC Rog. I was just telling Paul that the config-
uration on his ATM looks good to us. He remarked about it
after close-out.

END OF TAPE

SL-II MC-1224/1
Time: 09:48 CDT 26:14:48 GMT
6/19/73

CC Skylab Houston, 1 minute to LOS, Hawaii
at 15:50, 15:50. And we'll be doing a data recorder dump
over Hawaii.

PAO This is Skylab Control at 14 hours 51 min-
utes Greenwich mean time. Skylab is beyond range of the
Vanguard antennas now. Next station to acquire will be Hawaii
in about 59 minutes. The crew has not yet been given a GO
to rotate the parasol the 15 degrees as suggested by Pete
Conrad. The decision on that is expected to be made today.
As of now, there has been no decision on that. We've just
received a weather report in the landing recovery area, that
we'll read to you. The space flight meteorology group of
the National Weather Service said this morning that weather
conditions are expected to be satisfactory for the landing
and recovery of the Skylab astronauts Friday morning. The
landing area located about 800 miles southwest of San Diego,
California will have partly cloudy skies, northeasterly winds
at 15 knots, wave heights of 5 feet, and a temperature of
near 67 degrees. We'll come back up prior to Hawaii acqui-
sition. At 14 hours 52 minutes, this is Skylab Control.

END OF TAPE

Active volc.

SL-II MC-1225/1
Time: 10:48 CDT, 26:15:48 GMT
6/19/73

PAO Skylab Control at 15 hours 48 minutes
and 12 seconds Greenwich mean time. We have just received
the AOS call here in Mission Control. We have acquisition
of signal at Hawaii, and will remain live for air-to-ground.
CC Skylab, Houston. AOS Hawaii for
about 6-1/2 minutes.

SC

Roger.

SC

Roger, Houston. The PLT's a little
confused about the message reference in the shopping list
item on EREP deactivation number 2711, which appears to be
one of tomorrow's, that we haven't got yet.

CC

That's right, Paul. We're probably
going to send that up at our next station passage at Vanguard.

PLT

Oh, okay. Well don't get the impression
that I'm standing here waiting for it. I just wondered what
the story was. Thank you.

CC

Yeah. That's also true of the - They're
talking about day-27 stowage message and that's going to be
coming up later, too.

PLT

Okay.

If you guys could, we'd kind of like to
get an idea where you're at in the timeline, today.

SC

If you say please.

CC

Pretty please.

CDR

CDR is stowing S1 - S032A and B. I've
completed the rest of the stowage.

PLT

SPT is finishing out the suit configura-
tion on all three suits. And the PLT - I left my checklist
down there, but - What'd I just do, I just did something.

CC

I'll take your word for it, Paul.

PLT

Well I just dumped the LPCs for one
thing. So I'm a little beyond that.

CC

Okay. Very good.

CC

CDR, Houston. It doesn't sound like
you're going to be getting there. We are uplinking a pad
for that 183 pass, in case you wanted to get this night bit
around 17:00. You can tell us at Vanguard whether that doesn't
look like a GO, and we'll make you up another pad for
later on.

CDR

Well go ahead and uplink it for later on,
and if I get there, I get there, if I don't, I don't.

CC

CDR, correction on my last. We did send
you the pad. However the C&Gs are doing something a little
bit weird on us. They don't appear to be dumping to the
correct momentum state. So we don't want to go and inhibit
momentum dump currently. So do not execute that 183 pad.

CDR

Okay.

SL-11 MC-1225/2
Time: 10:48 CDT, 26:15:48 GMT
6/19/73

CDR Houston, SPT. PCU numbers 13 and 10
were used. I'm saying that because you're dumping my tape
recorder. And that tells you where I am in the checklist.
CC Rog. PCU 13 and 10.
PLT And the PLT just turned the page in his
EVA checklist to find out that he's done.
CC How about that.
CDR Hey, Crip.
CC Go ahead.
CDR I don't think I'm that far behind, because
I've eaten lunch.
CC Oh, we don - we don't think you're behind.
You're way ahead.
CDR Okay. Well, I'll, like, keep pressing on
here.
CC Okay. No, I - Don't get the idea we're
trying to rush you or anything. You guys are way ahead of
where we had anticipated. We're just trying to find out
roughly where you're at. By the way, we need somebody to
lock the star tracker on for us, if you would please.
SC Okay. I'm going back up to stow this
checklist, I'll get it.
CC Okey-doke.
SC Star tracker shows locked on up here, Bob.
CC Rog. Apparently it's on a particle or
something else. What we'd like you to do is to go to gimbal
angles of outer of plus 1550, and inner of plus 0394.
SC Oh, okay. That's inner of 394 plus and
outer of plus 1550.
CC That's affirm.
SC When I recover from my power-down
situation, here, I'll do it.
CC Okay.
CC Skylab, Houston. We're 1 minute from
LOS. We'll have you again over Vanguard at 16:18 - 1, 6, 1, 8.
An item of interest over Hawaii there, we do have an active
volcano on the big island.
CDR All right. Are we over it right now?
CC Oh, yeah. You're a little bit to
the east of it now, I think.
SC How about next pass?
CC Next pass is a good one to look at it.
I'll remind you of it then, and we have got that EREP pad
up for Paul.
SC Give us an overhead sign of the volcano
at Vanguard, if you can. And we'll see if we can't get a

SL-II MC-1225/3
Time: 10:48 CDT, 26:15:48 GMT
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300 millimeter on it.

CC

Okay.

SC

Which one is it Crip.

SC

Hey, have we got a star?

CC

Reg. You've got a star.

SC

Which volcano, Bob? Do you know?

CC

Kilauea. And it's going to be at

around 17 - probably around 17:30.

PAO Skylab Control at 15 hours 57 minutes
and 32 seconds Greenwich mean time. We have lost signal at
the Hawaiian Tracking Station, and expect to acquire next
in 20 minutes and 21 seconds at Vanguard. During this last
pass, we got a status report from the crew on how far along
they were in completing the stowage of the equipment and
configuring the suits and LCGs after the EVA, this morning.
They indicated they are quite well along in their procedures.
They were also told about an active volcano Kilauea, on the
Hawaiian Islands - in the Hawaiian Island chain. They were to
the north - to the northeast of the Hawaiian chain in this pass.
At their nearest point they were directly east of Hawaii and several
hundred miles away. They will be considerably closer during the
next pass as they go to the southwest of the Hawaiian island -
Hawaiian island chain. And they will get an exact time. The esti-
mate now is about 17:30 or about 12:30 p.m. central day-
light time. They should be close enough. They indicated
they may use the 300 millimeter lens on their Nikon camera.
Nikon 35 millimeter camera to photograph that active volcano.
This is Skylab control at 19 minutes and 9 seconds before
our next acquisition of signal.

END OF TAPE

SL-II MC-1226/1
Time: 11:16 CDT, 26:16:16 GMT
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PAO Skylab Control at 16 hours 16 minutes and 34 seconds Greenwich mean time. We are 1 minute and 25 seconds from acquisition of signal by our clock in Mission Control, at Vanguard Tracking Ship. And we will stay live for air-to-ground.

CC Skylab, Houston. We're AOS over the Vanguard for about 10 minutes.

SC Roger, Crip.
CC Rog. And I guess the situation on that momentum that you're interested in that we think perhaps that we got a bad Nz in the dump because of the star tracker being blocked on a particle or something. And - So we're going to take a look at it on this next dump cycle, before we decide when we're going to do the 183 thing.

SC Okay.
SPT Houston, SPT.
CC Go, SPT.
SPT I'm stumped. What do we ultimately do with our EV gloves. I don't think we bring them home, do we? We'll check it out for you, Joe.

CC Thank you.
SPT SPT, Houston. I'm informed that you can consider your EV gloves trash. And dispose of them accordingly through the trash airlock.

SPT Okay.
CC Wouldn't hurt to wait a couple of days on that, though.

SPT Thank you, sir.
SC You still there, Houston?
CC Affirmative. We've got about 2-1/2 more minutes.

SC Oh, okay. Can you have someone, quickly, confirm or deny on my EREP tape recorder photo unit, it says use the Nikon with a 95 millimeter lens. Now, before I start looking all over for that 35 millimeter lens, would you confirm that in fact is the lens they want me to use?

CC Okay. We'll check it out for you, PJ.
PLT And if it is, (Garble) how about seeing if anybody knows where it is.

CC I'll do that also.
CC Paul. Regarding your question. Yes that is the lens they want you to use. It should be located in one of the dome lockers, 416. It's a close-up lens.

PLT Yeah, I just found it in the stowage book, Bob. I just wanted to make sure I understood you before you went over the hill.

CC Rog, yeah. And incidentally, another

SL-II NC-1226/2

Time: 11:16 GDT, 26:16:16 GMT

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subject, Paul. I was informed, today, that all of the voice from Channel B was lost during your M509 checkout yesterday, so we didn't get any words that you put on there. We did understand you to say the whole thing was okay. But if there were any other significant comments, if you get a chance today, you might put them back on B-Channel.

PLT No, I gave that to Rusty last night or this morning. There wasn't any on B channel because E didn't say anything.

CC Ah hah, okay. Well, that's good, yeah. We did get your summary on air to ground, so fine.

PLT Okay, good enough. Yeah, I just sent a checklist mode that says to be recorded when I got back. I turned it off last night.

CC Okay. Fine and dandy. We're about 30 seconds from LOS. We'll see you again at Hawaii at 17:25, 17:25. We'll be doing a data recorder dump at Hawaii. And incidently, that's the pass where you might get a look at that volcano if it's visible.

PLT What time?

CC 17:25 is when I get you on AOS. You'll probably be overhead at around 17:30.

PLT Check.

PAO Skylab Control at 16 hours 28 minutes and 26 seconds Greenwich mean time. We have lost signal at the Vanguard tracking station, and will not acquire again until Hawaii in 56 minutes and 26 seconds. During the morning, the EVA being completed well in advance of the expected time, a number of pads or preadvisory data sheets were sent up to the crew on the teleprinter suggesting things that they might do today with the extra time that they will have available. One of those pads was for S183 requesting a 4th run on that S183, or ultraviolet panorama experiment. That was sent up following the EVA this morning. S183 is the ultraviolet panorama experiment conducted for a French researcher from the laboratory of space astronomy in Marseille. The UV experiment studies hot stars distributed throughout the Milky Way by obtaining color indexes of more than a thousand stars in our galaxy. Using photographs and 2 spectral bands, detailed classification of stars can be provided for comparison with existing theoretical models. The experiment uses the small airlock on the side of the orbital workshop opposite the Sun. To place the S183 spectrographic camera equipment in the end of the antisolar scientific airlock, the crew must first remove the sample array from T027, that's the ATM contamination measurement experiment, which measures the effect of contamination on optical surfaces like those

SL-II MC-1226/3
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used on the solar telescope. That T027 contamination experiment with its more than 200 samples has been in the antisolar scientific airlock for 2 days. S183 has been run 3 times before. The crew brought new film in the command module to replace that aboard the space station. Ground personnel felt that the high temperatures aboard the workshop before the parasol was deployed might have damaged the very sensitive ultraviolet film. The new film including film slides and 16 millimeter film - Our new film is believed to have caused the carousel portion of the camera to malfunction on its second of its 3 runs. During the third run only the 16 millimeter data acquisition camera was used. The ultraviolet panoramic experiment has both a still - slide type camera and a data acquisition 16 millimeter camera. Today's run will be made using the old film which has precision-machined carousel slides rather than the hand-machine slides that were carried up as new film. It is believed that those new machine - hand machine slides may have caused the malfunction in the camera. They will run it today even though they don't believe that the old film will be useful for gathering data. They do believe that it will tell them whether or not the malfunction was caused by the slides that were taken up - the hand-machine slides that were taken up. In the coming pass 53 minutes and a half from now, over Hawaii we expect the crew to attempt to try - attempt photography of Kilauea volcano using their 300 millimeter telephoto lens and Nikon 35 millimeter camera. They expect to be at their nearest point to Hawaii at approximately 12:30 p.m. central daylight time, at 17:30 Greenwich mean time. Hawaii is northeast of the ground track on 520th revolution, and they will attempt to do some hand-held photography, at least that's the opinion here on the ground now. Meanwhile our flight controllers are very busy working on additional things that can be sent up on what is called the shopping list. These are optional experiments that can be conducted today. Due to the fact that they have several hours in addition to the time that they expected to have because of the EVA being both shorter than expected and being completed much earlier. It began approximately an hour before they expected it to begin. This is Skylab Control. Our next acquisition of signal in 32-1/2 minutes. Skylab Control at 32 minutes and 39 seconds after the hour.

END OF TAPE

S054 Lock

SL-II MC1227/1
Time: 12:23 CDT, 26:17:23 GMT
6/19/75

PAO Skylab Control at 17 hours 23 minutes and 4 seconds Greenwich mean time. We are 1 minute and 55 seconds from acquisition of signal at Hawaii and we will stay live for air-to-ground there. We're expecting the crew to possibly do some hand held photography of Kilauea volcano in Hawaii. This volcano is presently active, and they indicated they may use their 300 millimeter telephoto lens to take some photographs of that with the 35-millimeter camera. They will also be doing some trouble shooting here of a short circuit in the radiator heaters of the command module. We'll discuss that following the pass. There is a short circuit in one of the radiator heaters and they will be throwing a couple of circuit breakers to test where that short circuit is occurring. This is Skylab Control remaining live for air-to-ground at Hawaii.

CDR Roger.
CC You talking about an unattended OPS (garble).
CC Can I just hold up on that then and - Or - -
PAO Skylab, Houston. AOS Hawaii, 10 minutes.
CDR Roger, Houston. S183 is installed; T027
is out. Be advised that when I pulled it out, it collected quite a bit of moisture on the SAL end of that. And I put the plate on, and I'll go pull a vacuum on it. The - the SAL is decreping right now with 83 in it.
CC Roger, Pete. Should be able to - you think you'd be able to do that 183 OP this next sunset then?
CDR No, I've got this D009. Is that the next one? You mean it's - - What are we doing - coming into daylight or going into darkness? I don't know where we are.
CC You're just now coming into sunup here. We would like to replace that D008 you had with 183 if we could.
CDR Okay, is this pad that I have good?
CC Okay, fine. Did you get that last pad, the one that we were unable to do on the 183? I was just going to read you some times on it, because we're going to be unable to send you a new pad.
CDR Well, it was 1630. You mean inhibit momentum dump or you want to do that later, of course?
CC Yeah, - -
CDR And the - -
CC If you've got the pad handy, I've got some new times that I'd just like to read those to you.
CDR Go ahead.
CC Okay, momentum inhibit at 18:07. And you can - the 183 OP time would be 18:17. Start exposures at 18:22. Enable momentum dump 18:46. And sunrise will be 18:41 for stopping.

SL-II MC1227/2
Time: 12:23 CDT, 26:17:23 GMT
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CDR Okay, and then the rotation of 308.5 and the
tilt 072 for starfield 155 plate 05 is good. Right?
CC Roger. We may end up having to change
that rotation due to a Nz update, depending on what our
momentum dumps, but the other numbers are good.

CDR Okay, you want me to drop D008. We'll
catch that later on today in the anomaly?

CC Negative on that.
CDR All right, let me tell you something else
about T027. The - the thing was apparently very cold up in
the front end, and when I torqued the inner knob all the
way down it did not close the little door over the front of
the (garble) completely because it kind of ground to a halt.
I said, you know, up and down sort of tight and I did,
but that didn't close the little door all the way. So it
got some moisture inside, I suspect, also. But my question
is, I've got to pull a vaccum on that end. Would you like me to
back it off just a tad to open the little door inside a little
bit so that the vaccum gets all the way in there? Or does
it just get all the way in there anyhow?

CC I'll check on that, Pete.

CDR Okay.
CC While we're checking if - apparently we've
lost the star again. Guess we got a lot of trash floating
around outside, and we're - we're wandering off. So if somebody
could get that for us, we'd appreciate it.

CDR Okay, we'll get it in a minute. We're
looking for Hawaii. Are the numbers still good?

CC Roger, 31 is the time of closest approach,
which is going to be about 3 min - 2 minutes from now. Also - -

END OF TAPE

SL-II MC-1228/1
Time: 12:28 CDT, 26:17:28GMT
6/19/73

CC - - 31 is time of closest approach, which is going to be about, oh, 3 minutes - 2 minutes from now. Also was wondering, y'all had that message on the CSM coolant valve that we'd like to run. We've got another 6 minutes here if - But we would like to get that run either here or Vanguard, which is our next pass. Vanguard's probably more appropriate since we're getting close. We're going to be at Vanguard at about 57. Do you think we might be able to do it then?

CDR Yeah. I can do it now. Let me see if I got it in my book, I think. I'm on my way to the command module.

SC Hey, Crip. I need some clarification on these tape recorder photos, too.

CC Rog. We'll try to get that clarified. Can I give somebody some gimbals for star tracker?

SC In a couple of minutes, Bob.

CC Okay. Why don't you go ahead and tell me your question on the tape recorder?

SC I don't understand what the keyed area of the black clamping ring is.

CC Okay. I'll see if I can get some experts to tell us.

CDR Okay. I'm on the secondary coolant loop, on the ECM indicators and such, cm rad heaters stuck with switches off and ECM RAD heater PRI switch is off. (garble) ECS coolant loop heater control MAIN A- (garble) has been open.

CC Okay. We copy. We'll sit there for a moment.

CDR Well, it's always open. It's open per the checklist.

CC We just wanted you to verify, that's all, Pete.

CDR Okay.

CC Okay. We can go on step 2 there for that ECS pri RAD control MAIN A.

CDR Rog. It's OPEN.

CC Okay. Now we're going to monitor the temp valve.

SC Go with gimbals, Crip.

CC Rog. Inner is plus 0400, outer is plus 1200.

SC 1200, wow.

SC (garble).

CC Okay, Pete. If you'd go ahead and close that breaker and open up B. MAIN B.

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CDR (Garble) MAIN-B is open.
CC Thank you. We'll look at it.
CC Okay, CDR. You can go ahead and close
that one also. And that didn't solve our problem. Thank
you.
CDR Okay.
SC Crip, I think I can get this 2008 done,
why don't I press on with it?
CC Rog, Pete. You option. The only
thing we were indicating was the 183 had priority over it. And
for your information, that method revising your day-27 stowage
transfers is in the teleprinter.
CDR Okay. How long is it?
CC Three of our pages. About 150 lines.
CDR Oh, Heavens.
CC Okay, Skylab. We'll have LOS in about
1 minute. We'll have Vanguard at 17:57 - 1, 7, 5, 7. And
Paul, we haven't got a clarification on that message yet.
And we'll try to get that for you over Vanguard.
PLT Okay. Good enough. I just don't know
what it is, Crip. And if anybody explains it to you, I
suggest you try to get hold of a picture of it.
CC Okay. Apparently nobody here does either.
CDR Hey, Crip, you going to send up more
183 pads. You want more of them done today?
CC We're going to try and get a clarifica-
tion on that. We're talking about doing one. But it would
be in your presleep activities. And there's some question
as to whether we can do it unattended or as requires - re-
quires somebody there. But we do not want to remove it.
Definitely do not want to unstow. We'll probably unstow it
tomorrow morning.
CDR Okay. I don't mind running it tonight,
if you want.
CC Okay. Appreciate it.
PAO Skylab Control at 17 hours 35 minutes
and 32 seconds Greenwich mean time. We have lost signal
at the Hawaiian Islands Tracking Station, and do not expect
to acquire again until Vanguard, 21 minutes. During this
Hawaii pass, Commander Conrad reported to space communicator,
Robert Crippen, that S183, the ultraviolet panorama photo-
graphic equipment had been successfully placed in the anti-
solar scientific airlock. And T027, the ATM contamination
sample collection, had been removed. Meanwhile, Dr. Joseph
Kerwin closed and opened circuit breakers for systems that
might have been responsible for a short circuit in the sys-
tem controlling the radiator heaters for the command module's

SL-11 MC-1228/3

Time: 12:28 CDT, 26:17:28 GMT
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secondary coolant loop. The report here on the ground after opening and closing two circuit breakers was that they had no joy, that there was no success in finding the short circuit there. The reason they noted there is a short circuit in the system is that the temperature indicator on that - in that radiator heater loop is giving them a reading about 70 degrees. That's no concern. Temperature is quite satisfactory. But it does indicate that the system is operating. It should not be operating, the heater switch has been thrown off, and that temperature transducer should read, off-scale low. Off-scale low is the reading that they get when they do not have it operating. Now, while the temperature remains at 70 degrees or in the upper ranges, there is no concern at all about the operation of that system. That area is in the Sun and the radiators are considerably warmer than would cause any problem. When the radiators become very cold - or that temperature transducer becomes very cold, then it's necessary to turn on - then the heaters become - turn on automatically. So if the temperature on the radiator should become very cold, and that temperature transducer should go below the desired level, the radiator heaters would come on. However, the coolant loop is not operating now. And for that reason, the heaters would heat up coolant only in the immediate vicinity, and it - there's concern that should that happen, there would be a break in the coolant line. It would overheat and it would boil and would pop the coolant line at that point. Secondary coolant loop is not an essential part of the system. It's not in operation now and would not be used again. However, during the return to earth and during the reentry period, the secondary coolant loop might become - the radiators might become too cold. The heaters might turn on, and should that happen we might have a blow-out on that secondary coolant loop. For this reason, the ground support people are investigating possibilities for avoiding that. One of those possibilities is to bypass the radiator. This is a difficult procedure because it requires a crewman to get out of his seat in the command module after they undock and to move down below the seat to switch the - switch it to bypass radiator. That's a difficult procedure that requires extra time and effort, and it's - believe they won't use that. The other possibility is to leave the coolant loop operating and - in which case as soon as they separate - as soon as they have separation, all of the coolant will flow overboard. That causes no problem. It's a possibility that's most seriously being considered now, in the event that they are not able to find the short circuit in the system. So during this last pass, they did attempt

SL-II MC-1228/4

Time: 12:28 CDT, 26:17:28 GMT
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to discover where the short circuit - why the short circuit was occurring, by switching a couple of circuit breakers and adjacent electrical systems. They found no benefit from that. They still are getting readings on the temperature transducer. There is no immediate emergency due to this. But they will be looking into it and they may have to consider dumping coolant overboard at the time of separation. They have now prepared a Flight Plan for this afternoon. And it indicates that S183 operations are to begin approximately now. And they indicated that they would allow Captain Conrad - Commander Conrad to operate on D008, if he wanted to pre - If he preferred to do that. That was scheduled for later today, but he had begun the procedure. They indicated that S183 operations were considered to be very important. And those were to begin as soon as possible. At the same they are doing closeout. The pilot will be doing closeout of the EREP equipment, and should have approximately completed that at this time. There is an ETC, Earth terrain camera inspection scheduled a little later this afternoon, by the science pilot. That should begin shortly. And S183, after its operations are completed, will be stowed later in the afternoon before the presleep activity begins. Other than that, a relatively little left to be done today. The crew has completed a very busy day, doing much more than originally was expected. In fact, an unusual occurrence, they had to revise the Flight Plan and present a revised Flight Plan after the EVA was completed at approximately 12:37 Greenwich mean time or 17:37 this morning, well in advance of the original schedule. This is Skylab Control at 40 minutes and 48 second after the hour. Our next acquisition of signal in 15 minutes and 48 seconds.

END OF TAPE

SL-II MC-1229/1
Time: 12:54 CDT 26:17:54 GMT
6/19/73

PAO Skylab Control at 17 hours 54 minutes
44 seconds Greenwich mean time. We are now approaching
acquisition of signal at the Vanguard tracking ship, and
expect to acquire signal there in approximately 1 minute
and 46 seconds. We will remain live for air to ground from
Vanguard.

CC Skylab, Houston. We're AOS over Vanguard
for about 7 minutes.

SPT Roger, Houston. The (garble) dosimeter
has been changed. What was wrong with it?

CC Apparently the power supply on it they think -
with it failed from down here.

CC And if - for Pete's question regarding
the T027, we want to go ahead and do it per procedures. The
only thing - you might try just tightening that knob in case
there was a little ice on it or something, so that it might go
ahead and tighten up now. Close up the cap.

CDR I got it tight after I came in. See
I tightened it down per the procedure while I was in the air-
lock, and I thought I had it snug tight. And that's because
it was real cold. Well, then as soon as I pulled it in,
frost froze on everything. And I took a look down at the
front end as soon as I got it in, and I could see that it
wasn't all the way in. So I went and really bent my arm
into it and by golly by really putting my arm into it I
got the door all the way closed. So that's the way it turned
out, but unfortunately I think it has warm moist air all over
it.

CC Okay. Well, that's fine. You can go
ahead and evacuate it. We don't need you to open it back
up to do that.

CDR Okay.
CC Okay. And for PJ I think I can try to
explain what the people wanted on that tape recorder photograph.
And while I'm waiting for Paul to get there, we're going to
inhibit orbital plane error update, because we've been having
(garble) problem with the star tracker. So if you would stay off
the DAS for a minute, we'd appreciate it.

CDR Okay.
CC Okay, and that's been done. So the DAS is
yours again. And PJ, are you in a position to listen to
me describe this thing on the tape recorder?

PLT Okay, I'm looking at the tape recorder.
CC Okay. Was your question in that first
paragraph about the keyed area, the black clamping ring?
PLT Precisely. I don't know what
that is.

SL-II MC-1229/2

Time: 12:54 CDT 26:17:54 GMT
6/19/73

CC Okay. The lower reel carrier, that
bottom black portion where the reel goes on.
PLT Yes.
CC Okay. The keyed area is just those
metal pins sticking out of it - the chrome colored pins.
PLT Is it two that stick brightly up and
mate it with the reel hub or the three that go out on the
side to engage the reel?
CC Three on the side to engage the reel.
PLT Okay.
CC All they really want you to do is - if
you just get a photograph of that area from head on, I think
that would just about get what they wanted.
PLT Oh, that's why I couldn't figure it out.
Because they want it at this area which, with three pins
equally spaced around it, you can't get it all in one shot.
And in the next shot they want was one vertically down. I'll
do my best.
CC Okay. Yeah, but you see where that
split is in the ring, chrome ring, just above it?
PLT Yeah, but that's split, Bob. That ring
floats on it. I can put that split anywhere I want it.
No, you're right, you're right. That split winds up with
another locating pin in there. Okay, now I'm (garble). Now
I (garble)
CC Okay. If you just get it from there, I
believe you can get it.
PLT Yeah, all right.
CC Basically that number 2 is the same one
of the top ring.
PLT Okay, now do they want them tight, or
loose, or does it matter?
CC It does not matter.
PLT Okay.
CC And CDR, if you can copy for 183 because
of Nz, we need to add plus 8 degrees to your rotation.
CDR Plus 8.
CC That's affirm.

END OF TAPE

SL-II MC1236/1

Time: 13:02 CDT, 26:18:02 GMT
6/19/73

CC East via rotation.

CDR (garble)

CC That's affirm.

CDR 315.5, right?

CC That is correct. CDR, also, in reviewing

your recommendation regarding rotating the parasol; you have a GO to do that. It's a simple procedure I'm sure you're familiar with. It's just a matter of taking the lock off and rotating it. We would recommend that you mark it such that we could return to the original position if there is any question about it.

CDR Okay, we will.

CC Skylab, Houston. We're about 1 minute from LOS; be a long LOS. We'll see you again at the Vanguard at 19:35;1935.

PAO Skylab Control, at 18 hours 4 minutes and 45 seconds Greenwich mean time. We have loss signal at the Vanguard tracking ship and will not reacquire signal for nearly an hour and a half when we will again be acquired by Vanguard. This is another pass that skirts the edge of our Ascension tracking station and goes between Guam and Hawaii, thus missing all of the stations with the exception of the tracking ship stationed in the South Atlantic off the Coast of South America. This is Skylab Control at 5 minutes and 16 seconds after the hour.

END OF TAPE

SL-II MC1231/1
Time: 14:32 CDT, 26:19:32 GMT
6/19/73

PAO Skylab Control at 9 - -
PAO Skylab Control at 19 hours 32 minutes
45 seconds Greenwich mean time. We have just heard the
warbler signaling acquisition of signal to come at
Vanguard in approximately 1 minute and 30 seconds. We will
remain live for air-to-ground. There is a press conference
tentatively scheduled for 2:45 a - 2:45 p.m. Central daylight
time with flight director Milt Windler and Rusty Schweickart
the spacecraft communicator for this mornings EVA. There may
be a third member at that press conference. We don't have
any information on the third - possible third attendee. This
is Skylab Control remaining live for air-to-ground from Vanguard.
CC Skylab, Houston. AOS at the Vanguard for
9 minutes.

CDR Roger.
CC Hi there, I hear you guys have been having
fun today.
CC anybody we need momentum dump enabled. If it's convenient to
you just let us know and we'll command it.

PLT It will be done.
CC Roger. And - -
CDR (garble)
CC Okay. Thank you, much. And Paul, I've
got a question for you and it has to do on your - on the
shopping list we sent up to you about the S073 film stowage.
Have you already done that?

PLT Pete already did it. He's on the bike
right now. Can he call you back when he's done?
CC Yeah, no problem. If he's already done
it no problem anyway.

PLT Okay.
CDR I'm finished, Dick. (garble) you want to
talk?

CC Sorry, there was a loud squeal and I didn't
catch that one. Say again, please.
CC Skylab, Houston. Somebody said they thought
you had said on the last one that I didn't copy. What - was
anything wrong with the S073 stow? The answer is negative.
What I was going to say was is if you hadn't done it, the
very last step in the procedure is you put the photometer
back in the switch container and that piece of equipment is
also used on S149 which we'll be using tomorrow. So it might
have saved you some time not to put it back in there but
either way we're all set I guess.

SL-11 MC1231/2

Time: 14:32 CDT, 26:19:32 GMT
6/19/73

CDR (garble) the S073 also. I took the
shortest (garble) and stowed it and hooked up the regular
cable. Is that the way you want to run tomorrow?

CC Roger. Let me check that one.

CDR Say again.

CC Roger. I'll get back to you on that one.

Stand by.

CC Skylab, Houston, for the CDR, that's
affirmative. That's okay to go ahead and use the regular
cable.

CDR Okay.

CDR Hey, Dick. Also we rotated the sail about
12 to 15 degrees. (garble) those testers up around the water
tank that were looking hot.

CC Real good, Pete. Thank you very much and
that'll probably help us out.

CC Skylab, Houston. We've still got about 3 more
minutes here at the Vanguard and then after this pass we're
going to have a pass at Ascension for about 9 minutes. And
sometime in these two passes we'd sure appreciate it if you'd
let us know what items on the shopping list you have gotten
done and what you think you will have done this evening so
we can crank into our - for our tomorrow's plan as soon as
possible. But either one of these two passes would be just fine.
We got 3 minutes left, standing by.

CDR (garble) the CDR got the 183 DAC in the
airlock closed vacuum, ready to go again. And the S073 (garble)
no (garble) and that (garble) S009 is still in the command
module.

CC Roger. Thank you, CDR.

SPT And the SPT on - Whatever they were, I did
them all, Dick. (laughter) I did the ETC photograph and
the stowage lift changes and whatever else you gave me.

CC Okay, Paul, for you I had an IMSS 1, a VABD,
replacement and stowage backup date. I'm sorry, that was
for Joe, but I think that's who was talking to me anyway.

SPT Ah, yeah, that's who was talking to you.
What was an IMSS 1? I didn't see that.

CC Stand by just a second.

CC Joe, the IMSS 1 is environmental sampling

of the vehicle.

SPT Oh, okay, we'll accomplish that.

CC Okay.

END OF TAPE

SL-II MC-1232/1

Time: 14:43 CDT, 26:19:43 GMT
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CC - - sampling on the vehicle.
CDR Oh. Okay, we'll accomplish that.
CC Okay.
PLI PLT will have everything done before retiring for the (garble)
CC Roger, Paul. Thank you very much. And the only question we had from that was for Pete, who is furiously riding the bike and who we keep asking questions of. On the S009, you said you stowed it. Did you do the malfunction procedure? Or if you didn't, do you figure you'll get to do that this evening?
CDR I can't find it. I took it out, folded it up, and stowed it.
CC Okay, Pete, we'll chase it down. And if the piece of paper got lost, we'll be glad to send it back up to you if necessary.
CDR Okay, but it doesn't have anything to do with - something rocking the motor - not the S009 case (garble)
CC That's affirmative, Pete. The mal was on the motor. We've got about 30 seconds left here at Vanguard. And we're going to see you at Ascension at 19:48.
CDR Okay.
PAO Skylab Control at 19 hours 45 minutes and 4 seconds Greenwich mean time. We have just lost signal at the Vanguard tracking station, and expect to acquire again in 2 minutes and 25 seconds at Ascension. At this time the spacecraft is in its 522nd revolution about the Earth, taking a period of approximately 1 hour 33 minutes and 15.7 seconds. Its maximum altitude is 242.6 nautical miles, with a minimum altitude of 228.9 nautical miles. Mission Control's retrofire officer has now completed detailed calculations on maneuvers for Friday morning's return of the CSM and Skylab's first three crew members. The command module is scheduled to undock at exactly 3:45 a.m. central daylight time with the space station over the north Pacific about 1200 miles north of Hawaii. Separation, using the small reaction control system jets for 23 seconds beginning at 4:40 a.m. exactly central daylight time, follows. The separation burn will slow the command module 5 feet per second or about 3 miles per hour, moving it behind the space station after it has completed its fly around of the Skylab orbital workshop and associated areas. As the CSM slows, it will move into a lower orbit and pass beneath the Skylab cluster. The separation takes place over the Indian Ocean some 2000 miles due south of the Malagasy Republic or the Island of Matagascar. Following separation at 5:05:30 a.m. Friday, that's central daylight time, the main engine or

SL-II MC-1232/2

Time: 14:43 CDT, 26:19:43 GMT
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service propulsion system will be fired for 10 seconds to soar the spacecraft an additional 264 feet per second, or about 180 miles per hour, putting it in an orbit 233.6 nautical miles or approximately 269 statute miles at its high point and 90.7 nautical miles or 104 statute miles at its low point. This orbit-shaping maneuver will be conducted over the Philippine Sea 600 miles east of the Philippine Island of Mindanao. The final burn, requiring a 7-second retrofire of the main engine, slowing the command module another 190 feet per second or about 130 miles per hour, will be made at 8:10:43 a.m. over the northern most area of Thailand near the Burma border. We are now within range of the Ascension tracking station, and will remain live for air to ground from Ascension.

END OF TAPE

SL-II MC-1233/1
Time: 14:48 CDT, 26:19:48 GMT
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CC Skylab, Houston. We're AOS at Ascension
for the next 8 minutes. Be advised we're going to command
the vehicle then to experiment pointing mode. And the ATM
officer's going to take over unattended operation of the ATM.
when we get to Guam. And I guess the next manned one, will
be when Brano and the guys get there in SL-III.

SC Okay.
PLT Next time the star tracker locks call
Beano.

CC Roger. (Laughter).
CC And, Skylab, Houston. Is somebody
available to go to the STS Panel, we have data. We'd kind
of like to do the REG POT adjust that we'd planned to do for
the mission. And the request is, REG BUS 1, adjust 15
degrees - 1, 5 degrees clockwise.

CC And this should cause the PCG-1 to increase
about 5 amps.

PAO Skylab Control. This is a clip.
SC Good, now what (garble) - -?
SC (Garble 53).
CC Thank you and we're looking at the data

now.

END OF TAPE

FROM SOVIET CORN.

1-234

SL-II MC-1234/1
Time: 15:12 CDT, 26:20:12 GMT
6/19/73

PAO Skylab Control at 20 hours 12 minutes and 39 seconds Greenwich mean time. During the last pass over Ascension we interrupted the air-to-ground in the middle of the pass and started to bring you a press conference being conducted in Building 1. And we have recorded that the remainder of that pass over Ascension, and will now play back the air-to-ground. Here is the air to ground from Ascension.

CDR I rode my bike up here (garble)
Now what did you want (garble) REG BUS 1 15 degrees, right?
Clockwise.

CC That's right. REG BUS 1, 15 degrees clockwise, and no adjustment required on REG BUS 2.

CDR Okay, there's 15 degrees.

CC Thank you, and we're looking at the data now.

CC Skylab Houston. For the CDR we have uplinked again the S009 malfunction message. That is in the teleprinter now. And I have a message here that I would like to read to all three of you guys, if you are in a listening mood. It reads: To the crew of the Skylab space station, Charles Conrad, Joseph Kerwin, Paul Weitz. We sincerely congratulate the courageous crew of the Skylab astronauts on your achievements in conquering outer space. Wishing you successful completion of your program and safe return to our beautiful blue planet Earth. On behalf of the team of Soviet astronauts, signed Vladimir Shattilov.

CDR That was very nice, we appreciate it very much.

CC Roger Pete. Thank you much, we'll pass it on.

CC Skylab Houston. On the REG adjustment - the EGIL says I guess on the number of degrees was slightly too much. We'd like you to go about 5 degrees counterclockwise on REG BUS 1 please.

CDR Okay. Have you got it - you still have out of the teleprinter?

CC Stand by.

CDR I tried to slew it and it wouldn't slew (garble).

CC Roger. The INCO says the teleprinter is yours.

CDR Thank you.

CC Skylab Houston. We're about 30 seconds from LOS. We're going to see you at Guam at 20:32, and we're going to dump the data recorder at Guam.

CDR Okay Richard. I'll run this S009 malf tonight sometime. And I think another S183 pad, and I'll run that tonight. Thank you.

SL-II MC-1234/2

Time: 15:12 CDT 26:20:12 GMT
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CC Hey, very good. And the EGIL is very
happy with that REG adjust. Thank you very much.
CDR Okay. And how does the CKBM (sic) 15 lock?
CC He is super happy about that one.
CDR That's good. So am I.
CC One question we did have as we go over
the hill, we're assuming that all your power system alert
lights are off now.

CDR We'll take a look at it.
CC Okay, if we miss you we'll get you
at Guam. How many times did you have to rap with that
hammer?

PAO Skylab Control at 20 hours and 16 minutes
Greenwich mean time. That concludes the air to ground re-
corded over Ascension including the message from cosmonaut
Vladimir Shattilov delivered by Spacecraft Communicator
Dick Truly during the Ascension pass. We'd like to repeat
for those of you interested in them the exact times of
docking, separation, shape and retrofire for the Friday
morning splashdown. Undocking will occur at 8:45 Greenwich
mean time or 3:45 a.m. central daylight time exactly. Sep-
aration at 9:40 GMT, or 4:40 a.m. central daylight time
exactly. The shape burn will occur - this is an orbital
shape burn - will occur at 10:05:30 Greenwich mean time, or
5:05:30 a.m. central daylight time. And the retrofire
burn will occur at 13:10:43 Greenwich mean time, or 8:10:43
a.m. central daylight time. Following retrofire burn
23 minutes later approximately the spacecraft will reach
the - command module will reach 400,000 feet. And landing
is scheduled to occur at 13:49:57 Greenwich mean time.
The spacecraft will take more than 23 minutes to reach the
400,000 foot level. Splashdown at 8:49:57 a.m. central
daylight time will occur approximately 830 statute miles
southwest of San Diego California. That's 830 statute miles
southwest of San Diego California. The predicted impact
point is 24 degrees 46 minutes north latitude, 127 degrees
4 minutes west longitude. To repeat, the predicted impact
point for an 8:49:57 a.m. central daylight time splashdown
on Friday morning is 24 degrees 46 minutes north latitude
127 degrees 4 minutes west longitude. That splashdown
point is 830 statute miles southwest of San Diego California.
An odd station there is the USS Ticonderoga, which is presently
conducting exercises of practicing for that Friday morning
splashdown. This is Skylab Control. Our next acquisition
of signal 13 minutes and 33 seconds from now at the Guam
tracking station. Skylab Control at 18 minutes and 37 seconds
after the hour.

END OF TAPE

SL-II MC-1235/1
Time: 15:30 CDT, 26:20:30 GMT
6/19/73

PAO Skylab Control at 20 hours 30 minutes and 14 seconds Greenwich mean time. We're now 1 minute and 45 seconds from acquisition of signal at the Guam Tracking Station. And we will remain live for air-to-ground and a call from spacecraft communicator, Dick Truly. This is Skylab Control remaining live for air-to-ground.

PAO Skylab Control. We have acquisition of signal at Guam, and are live for air-to-ground.

CC Skylab, Houston; AOS at Guam for 9 minutes.
SC Roger, Dick. Say, I noticed on that 27-day stowage update, we're only bringing back 19 rolls of film, and I would like to strike for the crew to have a 400-footer for their own. That - We've got some things that we'd like to do with it and bring it back, if nobody objects.

CC Roger, Pete. Let us check on that one, and confirm that that's okay. Stand by.
SC Yeah, and if they're really generous we could use two.

CC Okay.
CC Skylab, Houston. For the CDR. In answer to your question. Affirmative. You guys can have two 400-foot rolls and do good work with them and bring them home if you see fit.

SC Okay. Thanks very much.
CC Roger, Pete.
CC Skylab, Houston. A couple of items. One, we'd like to have the MPC inhibited please. And the second one, back on the two 400-foot cassettes for your use, we do request that you get two of them out of drawer Bravo. And just tell us on Channel B, or air-to-ground, whenever you decide - preferably air-to-ground, which two you pick, so that we can do our own cassette planning. Thank you.

SC Roger.
CC Okay.
CC Skylab, Houston. We're about 1 minute from LOS. We're going to see you at Vanguard at 21:11, and that Vanguard pass is scheduled as the evening status report.

SC Roger.
PAO Skylab Control at 20 hours 42 minutes Greenwich mean time. We have lost signal at the Guam Tracking Station and expect to acquire signal again at the Vanguard Tracking Ship, in South Atlantic, in 29 minutes and 13 seconds. This is Skylab Control at 42 minutes and 15 seconds after the hour.

END OF TAPE

SL-II MC1236/1

Time: 15:59 CDT, 26:20:59 GMT

6/19/73

PAO Skylab Control, at 20 hours 59 minutes and 25 seconds Greenwich mean time. At the present time we're still 12 minutes from acquisition of signal at Vanguard, but we have received some early information on the effect of that parasol rotation that was performed sometime before 2:40 p.m. central daylight time - sometime before 19:40 Greenwich mean time, a little over an hour ago. At that time, acting on the advice of Commander Conrad, who had been outside and had viewed the sail, he indicated that one of the rear poles that's used to hold the sail up - it has four extendable poles - one of those poles was not fully deployed, and that was the reason for a hot spot on the orbital workshop. This is a rather minor problem, but it had created some temperature in that area, during the entire mission, that's nearer one of the orbital workshop water tanks. Because he had noticed that, he indicated that a rotation in the counterclockwise direction from inside the workshop should move the sail over the hot spot and cover it up. And the rotation that he advised at that time was a 15 degree rotation. After some consideration by people here on the ground, that was approved. And before 2:40 p.m. central daylight time today, they did that maneuver. It was reported done at 19:40 GMT at Vanguard during our last revolution. After that event took place, the electrical general instrumentation and life support systems engineer, the EGIL, here in Mission Control, and his support team both here at Johnson Space Center and at Marshall Space Flight Center, which has a computer linkup to Johnson and also communications linkups, have been reviewing the data on various temperature sensors on the orbital workshop. And they have not yet arrived at a decision as to the effect of it. The preliminary indication is that they have had some temperature increase rather than decrease, but there're very complex figures involved because of the movement of the spacecraft and the high Sun angles which allow the spacecraft to be in the Sun for long periods of time. It'll be necessary for them to go back and review individual temperature changes, day by day and revolution by revolution, to see exactly what the effect of - of that parasol movement might have been. That first indication was an increasing temperature at Vanguard over the previous location, but as I said, because of the movement of daylight and night periods and because of the high angle of the Sun right now, the spacecraft is in the Sun more than it has been in previous parts of the mission. It's very difficult to determine whether or not the temperature increase was one that would be naturally expected at this time in the mission, because of the high Sun angle, or whether it was due to the rotation of the parasol. They are at this time looking

SL-11 MC1236/2

Time: 15:59 CDT, 26:20:59 GMT
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into the problem, and they're considering the possibility of moving that parasol either part of the way back to its original position or all the way back. It's necessary for them during this time to look at individual locations of those trans - transducers and attempt to figure out exactly what may have happened when they moved the parasol and what - how far the parasol has been moved and what its original location was. So when they have some inquiry at Vanguard regarding that, there may be some visual inspection again of the parasol. All these things are just contemplated now, but there is some immediate concern, because the only temperature indication they had was an increase, and they are not yet certain whether that is a normal increase and has been happening in the past or whether it was an unexpected one and one which indicates that the parasol movement was not a desirable thing. Because temperatures increase quite quickly when an area is exposed to the Sun, and it takes a long time for them to cool down. When on the inside of the workshop, they're concerned that this be done rather quickly. And certainly it will be completed before the crew goes to bed tonight. This is Skylab Control. This is an advisory information only. We do not have a definite idea of what the temperatures are, and we expect to hear something on that, though, in the next hour or so. This is Skylab Control at 3 minutes and 26 seconds after the hour. Next acquisition of signal a little less than 8 minutes from now at Vanguard. Skylab Control at 3:33 after the hour.

END OF TAPE

L-II MC-1237/1
Time: 16:10 CDT, 26:21:10 GMT
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PAO Skylab Control at 21 hours 10 minutes and 3 seconds Greenwich mean time. We have just heard the warbler announcing acquisition of signal to come at Vanguard Tracking Ship, in approximately 1 minute and 11 seconds. At that time, we should hear some discussion, possibly, of the parasol movement and we may have some indication of what the crew will be asked to do about that. This is Skylab Control, we will remain live for a call from Dick Truly, the spacecraft communicator, at Vanguard. Skylab Control, remaining live for air-to-ground.

CC Skylab, Houston; AOS, Vanguard for 11 minutes.

CDR Hello, Houston. CDR, with the evening status report.

CC Roger, Pete. Standing by. Go ahead.
CDR Okay. The CDR ate everything, including his asparagus, for the last time. We all had this, this is terrible. And two butter cookie cans. The SPT ate everything except one coffee with sugar. And the PLT ate everything except item 75, bread. And he had a DELTA-M20 of 0.5. And he had 9 optional salt. And the photo status for today 170 as it follows: M151 EVA donning, Charlie India 1600, Charlie India 14; EVA Charlie India 15, 55, Charlie India 12, with the remark that transporter 02 had end of film light on because 85 percent remaining outside and it did continue to count down, so we assume it's good. M2016, EVA film removal, Charlie India 09, two balls, Mike Tango 03; Mike 487 4 Echo, Charlie India 1332, Charlie India 10; Mike 4874 Foxtrot, Charlie India 06, 00, Charlie India 03; The 35 millimeter status is Charlie India 31, Terrain count 41, Charlie India 32, 19; 70 millimeters, Charlie X-ray 06, 103. There was no ETC EREP and the drawer A configuration is as follows: A-1 02 Charlie India 15, 55, Charlie India 12; A203 Charlie India 06, 00, Charlie India 03; A3 06 Charlie India 13, 32, Charlie India 10; A405 Charlie India 16, 00, Charlie India 14; and floating is 07 Charlie India 09, two balls, Mike Tango 03. And you have all the additions to the Flight Plan that were completed. The deletion was the 008-1. And that's about it. Over, to you.

CC Roger. We got all of that. Thank goodness to the miracle of tape recorders. And thank you very much, Pete. We've got a couple of other things I'll be coming up with for you in just a second.

CDR Okay. We rotated the sail back a little bit, because the PLT and the SPT found that their bedroom walls (laughter) were beginning to get hot, so we probably over turned it a little and we step - backed her off to what we think

SL-II MC-1237/2

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is the right amount now, and we'll check the walls in a little while.

CC Okay. Real fine. Thank you.

CDR Yeah, well, we went back up and looked at what we done. It looked like we rotated at about 25 degrees instead of about 15, so we backed off 10, and we may back off a little bit more.

CC Okay. Just let us know, Pete.

CDR Well, I think it's about 15 right now, but it's by eyeball and we can feel it on the wall very easily where the line is, and we'll get her ironed out to where - and I also think it is getting cooler up by the water ring on the other side of the vehicle.

CC Skylab, Houston, we've got a momentum situation that's unfortunately going to make us change our flight plan that we had talked to you tonight about S183. We're building up momentum in X and Y and we don't want to get into a situation where we spend the TACS, so unfortunately, regrettably, we would like to scrub the 183 pass for the next night cycle, and right now we would like you to go up and enable the momentum dump so that we can get a good dump this night pass. And if there are any other requests we have for you tonight about 183 I'll be getting back -

END OF TAPE

SL-II MC-1238/1
Time: 16:16 CDT 26:21:16 GMT
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CC - - so that we can get a good dump
this night pass. And if there are any other requests we
have for you tonight about 183 I'll be getting back to you
in just a minute or so.

CC And we have just about a minute or
so before the momentum dump starts, and so we need the
momentum enable as you get it please.

PLT It's enabled.

CC Thank you much.

CDR I don't mind staying up 15 - 20 minutes or
so. And I've got it all cranked up and all ready to go,
so why don't you crank out a pass for the next night pass.
How about the star tracker, is it good?

CC Stand by.

CC CDR Houston. Star tracker is good now.
We're not sure it still will be after we do these dumps,
but we'll be getting any changes back up to you when we
have to.

CDR Okay, this pad I've got here is just
until 23:00, and inner gimbal 394, outer gimbal 1717. You
want to update that?

CC Stand by, Pete, I'll get right back to
you.

CDR Right now, I'm reading 407 and 1419.

SPT Houston, SPT.

CC Roger SPT. Before you say anything, Joe,
we're not going to read you a new star tracker gimbal angles
at this pass. We may have one for you coming up later though.
Go ahead, Joe.

SPT Roger that. IMSS-1's completed.
Is there any objection to my doing IMSS-2 this evening?

CC Stand by.

CC Skylab Houston. We're checking on IMSS-2,
we'll get back right away with you. And we think we can
make some minor changes to the S183 that we uplinked - the
S183 pad that we uplinked a while ago. And we're going to
have a long Ascension, Canary, Madrid pass after this Vanguard
LOS. And we should be able to get you those changes, if
you're willing to stay up and do it next night cycle.

CDR Yeah, I am. And also be advised that
I do show a Bat pole barber pole while I'm on CBRM 15.

CC Roger.

CDR Then I show reg volts on 17.

CC Say again on 17, Pete.

CDR Reg volts, but I think that's been with
us since that funny regulator.

SL-II MC-1238/2

Time: 16:16 CDT 26:21:16 GMT

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CC Roger, concur.

CDR But the bat charger light's out and that (garbled) it just shows the bat volts barber poled on 15 and reg volts barber poled on 17.

CC Okay, Pete. Thank you very much. We're about 45 seconds from LOS. We're going to see you at Ascension at 21:29. And for the SPT, we are GO on IMSS-2 tonight if you'd like to do that.

PAO Skylab Control at 21 hours 22 minutes and 54 seconds Greenwich mean time. We have lost signal at Vanguard tracking station. We expect to have a signal again at Ascension at about 5 minutes and 30 seconds. During the Vanguard pass, we did hear a call from the crew. They indicated that they had noticed the problem of temperatures rising on the spacecraft, particularly in the sleeping compartment and that essentially confirms what was believed by people in the Huntsville Operations Support Center and those in the Johnson Space Center. We were reviewing the material. Apparently, there are several sensors which have showed a substantial increase in temperature. Temperatures inside do not increase very much because of the relatively quick action of the crew in moving the sail to a new position. But there were increases in the sleeping compartment and the experimental compartment ceiling temperatures of about 2 to 3 degrees. The temperature reading now in the sleep compartment is about 80.8 degrees, as of the Vanguard pass; in the experimental compartment, there are readings of 82.7 and 83.3 degrees. Now those, of course, do not reflect atmospheric temperatures in the entire workshop, but it does indicate that there were some temperature increases in those transducers of the ceiling and wall. Those were generally the highest reading temperatures inside the workshop in previous periods during the heat - high heat periods. The problem apparently occurred because of the movement of the parasol to approximately 25 degrees counterclockwise rotation. And the crew indicated that they thought they had overshot the mark. Originally, they had intended to go approximately 12 to 15 degrees. They thought that probably turned out to be 25 degrees and they did move it back clockwise 10 degrees in order to reduce those temperatures in the sleeping compartment walls. And they said that they would use their own judgment as to whether or not that was satisfactory and they will feel - feel the walls again to see if they are continuing to heat up. We're about 3-1/2 minutes from acquisition of signal at Ascension. During the coming pass, the long pass from Ascension continuous through Canary Islands and Madrid. At Madrid, we have scheduled a product medical conference

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Time: 16:16 CDT, 26:21:15 GMT
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PAO the daily medical conference to report the physical condition of the crew. And during that period we will hear no signal over Madrid. We do expect that as in past times we will get some period of that - sometime before the Madrid pass is completed, we may get that back for live air-to-ground from Mission Control. We have now approximately 3 minutes to acquisition of signal at Ascension and to the beginning of that very long pass from Ascension through Madrid and we will remain live from now until acquisition of signal at Ascension in approximately 2 minutes and 50 seconds. This is Skylab Control at 25 minutes and 47 seconds after the hour, remaining live for air-to-ground at Ascension.

END OF TAPE

SL-II MC1239/1
Time: 16:25 CDT, 26:21:25 GMT
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CC Skylab, Houston. We're AOS at Ascension, Canary and Madrid for the next 13 minutes. Be advised, the first several minutes of this pad that we'll pass we'll have air-to-ground, and then when we get Madrid AOS - when we hand over to Madrid, we're going to conduct the med conference. And then if you get through talking, we'll turn it back over to me for the remainder of that pad, and I should be then have some 183 pad changes for Pete. If we do miss - miss it, though, at Madrid, we still have a Guam pass that's prior to sunset and enough time to read the time changes on that pad.

CDR Okay.

CDR Say, Dick; CDR.

CC Go ahead.

CDR We're back to our old VOX again. You guys are going to have to tell us what UCTA you want us to use on day 29, because I just checked; they're not in A-6. We put 6 up in the locker, and all 6 of them have WLC on them, which I guess means with lithium chloride. So if there were any in there that didn't have any lithium chloride in it, they must have gotten used by us on launch day; the second set that we used or something.

CC Okay, Pete. Let me check with our stowage folks and make sure they understand your question, and either way we'll get back to you and advise you what we want you to do.

CDR Okay.

CC Skylab, Houston. In about a minute or so, we're going to be handing over to Madrid, and at that point we'll - you'll be getting a call from the surgeon. And when you get through, we'll talk to you again in Madrid, probably.

CC And also, Skylab, the EGIL says that he's happy with the present configuration on the CBRM 15, and before we do anything else to figure out about that barber pole, if we ever do, we'd like to think about it some more. So we're happy.

CDR We're happy too, Houston.

CC Roger.

END OF TAPE

SL-II MC-1240/1

Time: 16:37 CDT 26:21:37 GMT

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PAO This is Skylab Control at 21 hours 38 minutes and 10 seconds Greenwich mean time. We've just had handover to the Madrid tracking station, and the private medical conference is now underway. We do expect that the doctor will return control of the air-to-ground to Mission Control Center, and that should happen sometime during this Madrid pass. For that reason, we will remain live for air-to-ground for Madrid at the completion of this private medical conference.

CC Skylab, Houston. We're going LOS here at Madrid. We're going to see you at Guam at 22:19. Correction, 22:09. We're going to dump the data recorder at Guam; and, Pete, we're going to have a brand new S183 pad to up-link to you at Guam.

CDR Okay.

PAO This is Skylab Control at 21 hours 44 minutes and 36 seconds Greenwich mean time. We have lost signal now at the Madrid tracking station. Our next acquisition of signal in 24 minutes and 48 seconds will be at Guam. And that will be a 7 minute and 24 second pass at Guam. This is Skylab Control at 44 minutes and 57 seconds after the hour.

END OF TAPE

SL-11 MC-1241/1
Time: 17:07 CDT, 26:22:07 GMT
6/19/73

PAO Skylab Control at 22 hours 7 minutes and 43 seconds Greenwich mean time. We are 1 minute and 47 seconds from acquisition of signal at the Guam tracking station. The spacecraft is passing to the southeast and it will be to the southwest of the Guam Islands. This is Skylab Control. We'll remain live for air-to-ground and a call from spacecraft communicator Dick Truly.

CC Skylab, Houston, AOS at Guam for 7 minutes.

PLT Oh, if you're at Guam we must be at Guam, too.

CC I sure hope so. I got an answer for the CDR on this question about UCTAs. The proper UCTAs to use are ones that do have lithium chloride in them. And we think that they can be found per an earlier conversation that we had many days ago in D426. And if they aren't there, they probably are still in the CDR's sleep compartment, but we think they're in D426.

PLT You're right.

CC How about that.

CDR Okay, Dick. I got another one for the stowage people I have put on B channel, but just to make sure you get it - the broken TV camera, I understand is stowed in D6, which I assume is the old S015 experiment compartment - in the command module. That's number 1. Number 2 - I've taken the lens and found the old lens bag which I have stowed and the lens covers, and I have stowed the lens in F521, but also, I have stowed the monitor and the power cable and the monitor cable that came off that camera unless they want me to do something else with it.

CC Roger. I understand the monitor and the power cable and the monitor cable also are in the F521. Is that right?

CDR That's right. Now, later on in the day, I see that and I take the other TV camera off with me and - go ahead and mount it in the command module and I will probably find some way here what to do with the power cable off of it. If not, it will be in 521 also.

CC Okay, Pete.

CDR And you are sending me an S183 teleprinter message, right?

CC Skylab, Houston. Affirmative. We just uplinked a brand new message and it had a whole bunch of times and stuff changed in it, so we figured we'd just give you a fresh copy.

CDR Okay.

CC And, CDR. About the only thing on that pad that requires kind of fast action is we - is the momentum

3L-II MC-1241/2

Time: 17:07 CDT, 20:22:07 GMT

6/19/73

inhibit that's to be done - like right away.

CDR Okay.

CC And, the only reason on that - we kind of wanted to see that over this Guam pass.

CDR Okay, Dick. I got momentum INHIBITED.

Right?

CC Roger, we confirm. That's right. You're in the right configuration.

CDR Okay.

CC And Skylab, Houston. The EGIL reports that he can already see the change from your second adjustment on the parasol. On some of his temps - the water tank 1 temps, of course, will take a lot longer to show any change in.

CDR Roger.

CC Skylab, Houston. We're 1 minute from LOS here at Guam. We're going to see you at Honeysuckle at 22:23. And the controllers here are wondering how many of their backup - you're - of their backroom (garble) that you have because apparently you have both ASCOs and EGILs because in the last hour or so you've anticipated something we were getting ready to call up in a couple of cases. And you sure could save me some air-to-ground calls if you'd just let me know.

CDR Ho, Ho, and what's that? Like the star tracker just now?

CC Yes, the star tracker and you also were just ahead of the EGIL guys when you moved the parasol a while ago, too.

CC And it was in the direction that his backroom guys was going to ask for.

CDR Yeah, well when I eyeballed it I realized that I'd moved it about 25 degrees, because P.J. went to his bedroom and he says "My bedroom's getting hot." And we went over into Paul's - to Joe's which is really in the corner and that was really hot, but we said well, we over-smoked that one. We'll have to back off.

CC Roger, that. Gotta keep those guys happy.

CDR Right. But I think I've got about 15 degrees now if my eyeball's angle here is the same as my eyeball angle was outside. We ought to just cover to the meteoroid shield point on that side.

CC Okay, good. Well we'll keep - we'll still be keeping a good eye on it and we're going LOS and we'll see you at Honeysuckle.

CDR Okay.

SL-II MC-1241/3

Time: 17:07 CDT, 26:22:07 GMT
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PAO Skylab Control at 22 hours 17 minutes and 44 seconds Greenwich mean time. We have lost signal at the Guam tracking station and we'll next acquire a signal at Honeysuckle in 5 minutes and 17 seconds. During this last pass we had some additional data on that change in temperatures on the orbital workshop. They had gone up because the - -

END OF TAPE

PROPERTY & SHIP SERVICE
CONRAD TITEL MESSAGE

SL-II MC-1242/1

Time: 17:17 CDT 26:22:17 GMT

6/19/73

PAO - next acquire signal at Honeysuckle in 5 minutes and 17 seconds. During this last pass we had some additional data on that change in temperatures on the orbital workshop. They had gone up because of an overshooting in rotating the parasol. Captain Conrad had indicated that he wanted to rotate the parasol about 15 degrees. He found out after rotating it that the sleep compartments had become rather warm. They were reaching temperatures of about 81 degrees inside - 81 to 83 degrees inside, and because of that, they took another look at it and decided they had rotated it about 25 degrees rather than 15. They moved it back, and the temperatures now are coming back down. On some of those temperature transducers, the change in temperatures - these are mostly external temperatures or sensors up against the wall of the spacecraft - On most of those sensors, they had increases of temperature on several of them of approximately four or five of about 40 or 50 sensors that we have on our table here. Four or five of those went up substantially in temperature over about an hour and half period, between the time they moved the parasol, sometime before 19:40 G.m.t. and 21:12, when they reported that they had returned it to it's position. In some cases the temperature increases were small - 15 or 16 degrees. In some cases they were as high as 50 degrees, and these are, of course, only on temperature transducers on outside parts of the workshop, rather than internal. Those did indicate that the Sun was reaching the spacecraft, and after the sail was rotated back, we have seen drops in temperatures of - the largest drop being about 20 degrees over the last hour. Several of the others have dropped 16 degrees, and that does indicate that temperatures are coming back down in the proper direction. During the medical conference at Madrid, which is held private, the crew reported themselves to be again in excellent health. Here is the surgeon's report, signed by Dr. Buchanan; "Dr. Joe Kerwin, the Skylab 2 Science Pilot, reports the crew physical condition is still good, and they are operationally in fine condition." That's signed by Dr. Buchanan for Dr. Hawkins, the flight surgeon. At this time we are approximately 2 minutes and 46 seconds from acquisition of signal at the Honeysuckle station in Australia, and we will remain live for air-to-ground from Honeysuckle.

CC Skylab, Houston. We're AOS at Honeysuckle for 3 minutes.

CDR Roger, Houston. Be advised the cat's already out and the rest of us in work.

CC Roger that, and there's not a whole lot of

SL-II MC-1242/2

Time: 17:17 CDT 26:22:17 GMT

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news this evening, Pete, but there's one article here that I'd like to pass up to you.

CDR

Go.

CC

Okay. The Smithsonian Institution researchers conducting an investigation several hundred feet below the surface off Key West, became snagged in the wreckage of a World War II destroyer Sunday. Rescuers slowly decompressed a chamber of this midget submarine trapped underwater for 31 hours, but could see no signs of life of the two men inside. The other two men in the forward compartment were pulled safely from the civilian research sub Sealink as soon as it surfaced on Monday. And it's now reported that the two scientists in the forward compartment are in excellent condition after the sub was pulled from the water yesterday. And one other note on this news item. The destroyer that the midget submarine was taking a look at on the bottom was the USS Fred T. Barry, which was scuttled a couple of years ago to form an artificial barrier reef. And the USS Fred T. Barry was - had another noteworthy experience earlier in it's career, when Midshipman Richard Truly took his first midshipman cruise aboard that ship, but I haven't heard yet whether there's any correlation between that fact and the fact it was chosen to be scuttled. Over.

MS

Yea.

SPT

You got off just in time.

CC

Roger.

CDR

Say, in answer to your teleprinter message that you sent up. I have one here that I received and - do you have a minute to get it.

CC

Roger, we got about 45 seconds left in this pass. Go ahead.

CDR

Okay. It's to Captain Charles Conrad, Jr. from NASA. First paragraph reads: "On or about 22 June, 1973, you and your crew will (garble) Skylab 1, leaving it in all respects ready for the arrival of the Skylab 3 crew on or about 27 July, 1973." Paragraph 2: "At that time you and your crew will proceed by space and air to the USS Ticonderoga without delay, and report immediately to the SMLS for duty."

CC

Roger. We copy that and we're looking forward to those orders being - going into effect. We're going LOS here at Honeysuckle. We're going to see you at the Vanguard at 22:51.

CDR

Okay. Pass those to Captain Bean.

CC

I sure will.

PAO

Skylab Control at 22 hours 27 minutes and 26 seconds Greenwich mean time. We have lost signal at the Honeysuckle tracking station, and expect to acquire in 23 minutes and 20 seconds the Vanguard tracking ship.

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Time: 17:17 CDT 26:22:17 GMT

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During this last pass, Richard Truly, the spacecraft communicator read up a report on the submarine that was trapped in the wreckage of a World War II destroyer, a destroyer that had been scuttled. Spacecraft communicator Truly indicated that he had been a midshipman aboard that craft, and the reply from the astronauts was, "You got off just in time." And following that, the astronauts read back a set of orders that they had concocted for Al Bean for the July 27th launch, Skylab 3, the next manned mission of Skylab. This is Skylab Control. Our next acquisition of signal in 22 minutes and 26 seconds at Vanguard tracking ship.

END OF TAPE

SL-II MC-1243/1
Time: 17:49 CDT, 26:22:49 GMT
6/19/73

PAO Skylab Control at 22 hours and 49 minutes Greenwich mean time. We've just heard the warbler announcing that we are approaching acquisition of signal at Vanguard. This is a low elevation pass lasting 4 minutes and 24 seconds approximately. And it will begin approximately 1 minute and 35 seconds from now. We'll stay alive for air-to-ground and what may be the final call of the day from spacecraft communicator, Dick Truly. We're alive for air-to-ground.

CC Skylab, Houston. We're AOS at Vanguard for 4 minutes.

SPT Hello.

CDR Hey, Richard. The reason I work so hard to stay in front of you guys is to keep from the surprises. In the F-27 day transfer I smelled a rat on the - finding the food - and sure enough, most of the lockers all had launch bolts in them. I have gotten the food that's requested to be returned. And on B channel I just put it on there as whose food I robbed when I couldn't get it from overage. Okay?

CC Roger. Got it. And we'll look on B channel and get that information.

CDR There you go.

CC And actually, that was just a plot from Bean to get you to take out the launch bolts.

CDR That's what I figured. The other thing is, in anticipation of the (garble), I think we will change the teleprinter paper tonight. It hung up several times, and be (garble) it, as you remember one time I asked you, and it was coming off the roll a little crooked and getting over to the left now, and it looks fairly low and I think we'd be better off if we changed the roll.

CC Roger. And we concur with that. Go ahead.

CDR Okay. Besides that, we haven't even gotten into the middle of Tube 1 yet and there's 87 tubes of that stuff up here.

CC Oh, it seemed to me like we must have used about 10 of those tubes the way we've been putting out the paper. I've got an answer for you on the TV cameras, Pete. The - for the broken television camera - the way you described the stowages is exactly the way that we would like it. And on the working one, the camera lens monitor - monitor cable are to come home, of course. And the - use the existing command module TV power cable for that. And leave the SWS TV power cable in - where you said, in - I think it was F521.

CDR Yes, I'll either put it there, or where it came from, which is in another one of those lockers right by there - 526, or something like that.

CC Roger. Why don't you just - -

SL-II MC-1243/2

Time: 17:49 CDT, 26:22:49 GMT
6/19/73

CDR

But I'll put it on B channel.

CC

Okay, fine.

CC

Also, this evening we're going to up-link - we made a couple of minor changes to your Flight Plan for tomorrow. They were based on the fact that Joe reported he was going to already have done IMSS-2. And also based on your photo report, it looked like one of the cassettes had some extra film that was left over for the EVA. And we're going to ask you to photograph M110 in the morning, which we never have done. And we're about a minute and a half from LOS here at Vanguard, and this is the last pass of the evening. We do have a - it's - I know you're going to be up. We do have a Canary-Madrid pass at 23:09, if you'd like to give us a call, but I won't call you. Also, there's two or three guys on this team that are going to see you again at entry, but for most of the guys on Chuck Lewis' bronze team, this is the last shift that we'll get to work with you guys on Skylab 2, and it's really been our pleasure, and I can guarantee you that the guys both out here in the front room and in all the SSRs have really been - done a super job. And they might even be willing to buy you guys a sarsaparilla or something when you get home.

CDR

We appreciate that. We appreciate every-

thing that (garble) runs. A great job.

CC

Roger that. See you in the morning.

SPT

Goodnight Capcom. Goodnight PAO,

INCO, EGIL, G&C, ATM, and all you guys.

CC

Goodnight, Dick.

PAO

Skylab Control at 22 hours 55 minutes and 27 seconds. We have lost signal at the Vanguard tracking station, and we have an opportunity to acquire in 14 minutes at the Canary Island station, but spacecraft communicator, Dick Truly, has given his last goodnight. He and Chuck Lewis' bronze team of flight controllers will not be on duty again during the Skylab 2 mission when the crew is awake and up. And that may be the last time they will have conversation. They did indicate that since we're a little more than 13 minutes now from acquisition at Canary, that the crew may desire to call us back. The crew did give goodnights though, and we will be up live at Canary Island in the event that they do give a call, although we do not expect one. This is Skylab Control at 22 hours and 56 minutes Greenwich mean time.

END OF TAPE

SL-II MC-1244/1

Time: 18:09 CDT 26:23:09 GMT

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PAG Skylab Control at 23 hours 9 minutes
and 7 seconds Greenwich mean time. We have just received
a signal that we are acquiring signal now at Canary Islands
and we'll remain live in case there's air to ground from
the crew.

CDR Go, Houston, Skylab. S183 is off and
running.

CC
JDR Okay, Pete. Thank you very much.
How are those guys gonna make out with
this Moon?

CC Sorry, I didn't copy that. How are
they gonna make out with what?

CDR Well, the Moon is up and I thought that
that kinda put the fritz on the S183 and S019, so I won-
dered how they thought they were gonna make out, seeing
the Moon is still about two thirds of the way up.

CC Roger. Well, whatever corollaries says
next, I'll pass on to you.

CC Skylab, Houston. I'm advised that
premission we did intend to operate not, you know, with the bright
Moon up and for this pass this evening all but about two
of the targets are pointed fairly much away from it and
since we did have the opportunity here on the SL2 to get
in the S183 passes, it just looked like a good bet to get
some more data and so we decided to do it this way. And
we're gonna take a look at the data and I guess we'll know
after you come home.

CDR (garble) It's running just fine.
CC Roger.
CC Incidentally, we got about 10 minutes
left in this pass.

SPT Everybody's gone to bed up here except
the CDR and the PLT.

CC Roger.

CDR Don't let him fool you. Dr. Vampire is
laying out his blood sucking instruments right now.

CC Roger. Incidentally, I don't know how
the weather is in Europe tonight, but you're going to be
crossing the coast of Spain here in just about 3 or 4 min-
utes and looking at our big map up there, it looks to me
like you're going to be going just north of Madrid and
south of Paris and then continue on over the Alps.

CDR Yeah, it's a goodlooking pass, Dick,
but unfortunately we got spacecraft sunrise in 6-1/2
minutes and that really wipes out the ground.

CC Roger.
CDR Went smack over Paris last night,

SL-II MC-1244/2

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Just as it was really heaving into view, the Sun hit it.

CC

Rog.

CC

Skylab, Houston. We're 1 minute from

LOS at Madrid. See you in the morning.

CDR

Nighty-night.

PAO

Skylab Control at 23 hours 24 minutes

Greenwich mean time. We have lost signal at the Madrid tracking station after a Canary Island and Madrid combination pass, and we will not hear from the crew again this evening. That was the final good-night given by spacecraft communicator Dick Truly, who is serving his final term as spacecraft communicator during the first Skylab manned mission. Temperatures in the sleep compartment and the experimental compartment ceiling transducers have begun coming down again. They had increased several degrees when the parasol was rotated about 25 degrees earlier in the day. Commander Conrad had planned on a 15 degree rotation and moved the parasol about 10 degrees back to correct that mistaken estimate on the rotation angle. On a few of the external wall sensors outside the orbital workshop living area, not where the crew is located, but outside that area, the temperatures rose from 10 to 50 degrees due to both the increasingly long time the spacecraft now remains in the Sun and due to the changed position of the sunshade. Inside the workshop, only a very small change was observed. Room temperatures remained in the high seventies. The sleep compartment ceiling and the ceiling of the experimental compartment rose several degrees from - reaching levels of about 81 to 83 degrees. These have now moved down about 1 degree each over the past 2 hours and are expected to continue receding. The purpose of the slight parasol rotation was to cover a small hot spot near the orbital workshop's water storage tanks, because many hours are required for changes in internal temperature. The success of the change, suggested by Conrad after this morning's EVA to retrieve film, won't be certain until some time tomorrow. Today's extravehicular activity began about an hour earlier than expected and required only about half of the 3 hours set aside for the removal and replacement of film and camera assemblies for several of the telescopes and photographic facilities used to study the Sun. Commander Conrad also succeeded in reactivating charger battery regulator module number 15, one of two batteries in the ATM solar array system that had gone off. CBRM number 15 had been out of operation since before the manned launch, but by tapping on the battery screw only once, Commander Conrad succeeded in closing an open relay and again the battery is

SL-11 MC-1244/3

Time: 18:09 CDT 26:23:09 GMT

6/19/73

now successfully generating power. This added approximately 150 to 250 watts in power to the system, and it is now reading fully charged. All 18 of the ATM batteries are, in fact, fully charged now, although number 3 is still has a regulator out, and for that reason is not functional. During this last pass just before daylight, the commander of the spacecraft was told that he might take a look at the ground track and be able to observe the Alps and Paris. He said that - the reply from the astronauts was that they did not have much luck in seeing things at dawn period, which tended to wipe out the ground. They also reported that S093 is now operating. S093 operations were scheduled twice today when they discovered they had considerable time left over after that very successful and very quickly done EVA this morning. S093 is the ultra violet panoramic experiment being operated for a French government agency in Marseilles, France and its purpose is to study hot stars in the galaxy of which our Sun is a part. They did indicate that the Moon is about two thirds up at this time and they were curious as to whether or not that would give them valid data. The report here from our corollary science officer was that we are testing our constraints, in other words, trying to discover whether or not the cameras used in that UV experiment can successfully gather data when the Moon is up. One of the other purposes of running that UV camera today is to test whether or not the film in the carousel part of the camera will operate properly using old film. During the second use of that camera, using the new film that was carried up when the old film was believed to have deteriorated too much because of heat, the camera jammed and they felt that it may be due to the fact that hand machine slides were used rather than the precision machine slides used in the original film. So that was a test of that using old film which may in fact be of much value to them anyway. They did indicate that several of the hot stars being studied were targets that were away from the area of the Moon and for that reason the data, if it is useful data may not have been interfered with by the Moon anyway. The report also was that this last pass that everybody is asleep except the CDR and Pilot, that is to say that Science Pilot Joseph Kerwin is believed now to be asleep. The indication from his M133 sleep monitor is invalid which indicates that it may not be hooked up properly or we may have some problem in the telemetry. But normally the sleep monitor that he wears as a cap, does indicate the present state of sleep, whether he's in light sleep, deep sleep or awake. But, we

SL-II MC-1244/4

Time: 18:09 CDT 26:23:09 GMT

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got no reading of that over the Madrid station. It's been a very successful day on Skylab. The crew is now believed to be ready for sleep and we do not expect to hear from them again until two a. m. in the morning when a wakeup call goes up from the on duty spacecraft communicator. This is Skylab Control signing off until tomorrow morning at approximately 2 a. m.

END OF TAPE

SL-II MC-1245/1

Time: 20:07 CDT, 27:01:07 GMT
6/19/73

PAO This is the news center at 01:07 G.m.t on mission day 27. We've had one additional unexpected communication with the crew. One of the crewmen called just to assure that they had left the teleprinter properly configured to receive messages. It was properly configured. Here is a replay of that tape.

CC Skylab, Houston. We see a 10000 DO NOT ENTER on the DAS. Go ahead.

CC Skylab, Houston. We see a 2000 do not enter in the DAS, and we're AOS Bermuda. Go ahead.

PLT Okay, Richard. We noticed a little bit ago that we had cut you out of the teleprinter by leaving it ON instead of in COMMAND. You guys know that? Do you know which messages got up?

CC Roger. Stand by 1.

PLT Okay. Let me tell you. The last one that we're pretty sure we received was either to put out the (garble) dates or the 183 pad. Whichever of those two was last.

CC Stand by.

MCC Skylab, Houston. We would prefer the switch in COMMAND. It turns out we do have a way to get around that by commanding. However, we had not got to the point where we needed it, and you do have all the messages onboard we've up-linked.

PLT Okay. Good enough. It's back in COMMAND - it's back in COMMAND now, Dick. See you in the morning.

CC Okay. See you.

PAO This is the Skylab News Center at 01:09 G.m.t. on mission day 27. Out.

END OF TAPE

L-11 MC-1246/1

Time: 02:00 CDT, 27:07:00 GMT
6/20/73

PAO This is Skylab Control at 7 hours Greenwich mean time on the 27th day of the first manned mission of the Skylab program. Skylab is nearly within range of the Goldstone station, at which time Cap Com, Dr. Bill Thornton, will put in a wake-up call. The Flight Director on this shift is Don Puddy. We'll stand by for the crew wake-up call.

PAO This is Skylab Control at 7 hours 5 minutes Greenwich mean time. The Flight Surgeon has informed the Flight Director that he believes the crew is still sleeping soundly, so Flight Director Don Puddy has decided to allow the crew to continue sleeping through this stateside pass and put in a wake-up call just prior to loss of signal at Bermuda. We'll continue to leave the line up should one of the crewmen awaken and give us a call.

END OF TAPE

SL-11 MC-1247/1

Time: 02:16 CDT 27:07:16 GMT
6/20/73

CC
PLT
CC
CDR

Skylab, Houston. AOS Bermuda 3 minutes.
Good morning.
Morning, Paul.
Just be a nice guy and let me sleep in

a little.

PAO
This is Skylab Control at 7 hours 21
minutes Greenwich mean time. Bermuda has loss of signal.
However, Canary Island station will pick up the spacecraft
very shortly with overlapping coverage through Ascension.
We'll continue to stay up for that pass.

END OF TAPE

SL-11 MC-1249/1
Time: 03:05 CDT 27:08:05 GMT
6/20/73

PAO This is Skylab Control at 8 hours 5 minutes Greenwich mean time. Skylab coming up on acquisition at Carnarvon with overlapping coverage through Honeysuckle. We'll stand by.

PAO This is Skylab Control. Part of the postsleep activities today includes the taking of blood samples from all three crewmen.

CC Skylab. AOS 7 minutes Honeysuckle.

PLT Thank you, Bill.

CC LOS 1 minute. Hawaii at 08:27.

PLT Roger, (garble)

PAO This is Skylab Control at 8 hours 15 minutes Greenwich mean time. Skylab is beyond the range of the Honeysuckle station now. Guam will acquire in 12 minutes. At 8 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1250/1
Time: 03:25 CDT, 27:08:25 GMT
6/20/73

PAO This is Skylab Control at 8 hours 25 minutes Greenwich mean time. Skylab is almost within range of the Hawaii station, not Guam as previously reported. We'll stand by for conversation through this station.

CC

Skylab, AOS 8 minutes Hawaii.

PLT

Roger, Bill. Hey, sometime today or - how about asking photo people how many photos are required for the Hasselblad for the fly-around.

CC

Wilco.

PLT

Thank you.

CC

LOS in 1 minute. Goldstone at 08:40. And, Paul, we feel that you should leave a full Hasselblad mag for the fly-around. It'll probably take something more than 50 pictures.

PLT

Thank you.

END OF TAPE

SL-II MC-1251/1
Time: 03:36 CDT 27:08;36 GMT
6/20/73

PAO This is Skylab Control at 8 hours 37 minutes Greenwich mean time. Hawaii has loss of signal. Goldstone will acquire in slightly under 3 minutes. We'll continue to stay up through this short LOS. Paul Weitz has been advised to reserve a full magazine of film for the Hasselblad camera for photography during the flyaround of the Saturn workshop after undocking on Friday.

PAO A news conference with the crew is scheduled for the stateside pass following this upcoming one. That news conference scheduled at a Greenwich mean time of 10 hours 18 minutes to about 10 hours 35 minutes. That's 5:18 to 5:35 a. m. central daylight time. CAP COMM will read up questions that have been prepared by the news men covering the mission at the Johnson Space Center. And it will be televised in real time. We should have acquisition at Goldstone now. We'll stand by.

CC Skylab. AOS for 5 minutes.

CDR Say, Bill; CDR.

CC Go, CDR.

CDR Okay, that Hasselblad - it doesn't sound like you're aware that's a 170-picture magazine. We have about 60 pictures left on one magazine and 170 on another, and we would like to use as much as possible for Earth terrain photography, and if 50 or 60 is good enough, we'll probably shoot up what's in this magazine and work our way into the other magazine until we got about 60 or 70 left.

CC We copy that and agree, CDR.

CC CDR, Houston.

CDR Go ahead.

CC Did you get the SOJ9 mal done last

night?

CDR Yes. It's on B channel.

CC Copy.

CC We'll be LOS in approximately 30 seconds.

AOS Bermuda at 08:49.

PLT Roger.

CC And be advised that getting things off channel B is fairly slow down here, so if there's anything that you feel that is in any way urgent between now and undocking, you might give us a direct call on it.

PLT Wilco.

PAO This is Skylab Control at 8 hours 49 minutes Greenwich mean time. Flight Director Neil Hutchinson is preparing to relieve Flight Director Don Puddy. The new CAP COMM will be Astronaut Henry Hartsfield. And the backup pilot for this mission, Bruce McCandless, is also on the CAP COMM console. Flight Director Puddy estimates his change of shift news conference for 4:30 a. m. central daylight time, 4:30 a. m. central daylight time.

END OF TAPE

TIPPLETONE - RUN DOWN

SL-II MC-1252/1

Time: 03:50 CDT, 27:08:50 GMT

6/20/73

PAO - 4:30 a.m. central daylight time for the
Change-of-shift conference in the Johnson Space Center News
Center.

PLT

Roger.

PAO

And Skylab is in acquisition at Bermuda.

CDR

Bill, CDR.

CC

Go, CDR.

CDR

Sometime today, would they work up approxi-
mately how far we're going to shift our watches tomorrow to get
on the deactivation time line. And just give me a little
rundown on that today, so I know what to expect - are we going
to set our watches ahead or behind, and when do they want to
come up with the clock time, do we get a wake-up to it, do
we want to - you know, how do we want to work that little deal?

CC

Wilco, Pete.

SPT

Houston, SPT.

CC

Go, SPT.

SPT

Roger. I'd like to have some words on
why we're doing M171 in mode 1 this morning. It's something
we have never used in training, has no baseline data on it,
and I understood it wasn't supposed to work very well.

CC

Roger all that. Stand by half.

CC

Joe, in essence, this is a troubleshooting
procedure. They're trying to get some information operating
in this mode that can be applied in its normal operation.
What you just said is all essentially correct.

SPT

Okay, we'll talk about it afterwards.

CC

This came up for quite a bit of discussion

here.

CDR

It came up for quite a bit up here, too.

CC

We copy.

CDR

Houston, CDR.

CC

Go, CDR.

CDR

On these contamination photos, I assume
they want to use the 35-millimeter camera that is to be devel-
oped for color interior rather than color exterior.

CC

It is the 35-millimeter, and stand by half

on the film.

SPT

Houston, SPT.

CC

Go, SPT.

SPT

On reading my message 2712 about drug
stowage - does that mean that I'm not to bring ED-31 home?

CC

Stand by half.

CC

We're going LOS here in about 30 seconds.
We'll have you Canary in approximately 14 minutes. Correction
on that - we have you at Ascension at 09:06, and we'll have
the answers for those questions at that time if we don't get
them before.

CDR

Okay.

END OF TAPE

SL-II MC-1253/1
Time: 04:00 CDT, 27:09:00 GMT
6/20/73

PAO This is Skylab Control at 9 hours 1 minute Greenwich mean time. Bermuda has had loss of signal and Ascension will acquire in about 4 minutes. We'll stay up and wait for - -

PAO This is Skylab Control. While we're waiting for Ascension, we'll repeat the announcement on the Change of Shift News Conference with Flight Director Don Puddy, the off-going Flight Director, scheduled for 4:30 a.m. central daylight time in the JSC News Center; 4:30 a.m. central daylight time, for a Change of Shift News Conference in the News Center, the Johnson Space Center. We're about 2 minutes away from acquisition at Ascension. We'll stand by.

(garble)

CC Skylab, Houston through Ascension for 10 minutes.

CDR Good morning, Henry.

CC Hello, there. Well, you guys did it again. Another outstanding job with the hammer.

PLT Yes. Give us a hammer and a place to stand and we'll fix anything.

SPT You're a little late this morning, Hank. You got to sleep in, huh?

CC Well, it depends on how you look at it.

SPT Right.

CC CDR, Houston. In answer to your question about how we do the watches. What we're thinking about now is just setting all the wristwatches ahead about 4 hours tomorrow morning and that will put us on a time line. We're going to get a little message up to you later on today with all the details.

CDR Okay. We just do that when we wake up, jump from 07:00 to about 11:00.

CC Roger. That's what we're thinking about.

CDR That sounds real good.

CC Skylab, for the CDR. In answer to your question on the film, you can use the numbers on the pad, or if you want to use the spotmeter, use a ASA of 160.

CDR That doesn't really answer my question, Henry. My question was, we have two 25-millimeter cameras in here. One we've been exclusively shooting out the window with it - they both have color interior in them - one we've been exclusively shooting out the window; the other one we've been exclusively using with the flash. Now I assume the one with the flash is going to get exposed at 500 ASA, cause that's what it says on the can. That may not be true, seeing they're all flash pictures. And the other one is that the other one is going to get exposed - developed at ASA 160.

SL-II MC-1253/2

Time: 04:00 CDT, 27:09:00 GMT

6/20/73

CDR Now which camera do you want me to use. The one that we've been shooting out the window, or the one that we've been using inside with the flashgun? That's my question.

CC We'd like you to use the one that's been using out the window. And we believe that's 03.

CDR Okay. I already did, now. And that's going to be ASA 160 development and if I use the spotmeter, I'll set it for ASA 160. Okay. Thank you.

CC That's correct, Pete.

END OF TAPE

SL-II MC-1254/1

Time: 04:14 CDT 27:09:14 GMT

6/20/73

CC Skylab, Houston, for the SPT. In answer to your question earlier, do you want 8031? It is our plan to bring it back, but there's some confusion here as to when and where and how we're going to do it, as you can see from the message, and we're about 40 seconds from LOS. Carnarvon will be coming up at 39.

SPT Okay, Hank. I'll work it out and let you guys know what we're going to do.

PAO This is Skylab Control at 9 hours 17 minutes Greenwich mean time. Skylab out of range from Ascension now. The next station to acquire will be Carnarvon, Australia in 21-1/2 minutes. At 9 hours 18 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1255/1
Time: 0425 CDT 27:09:25 GMT
6/20/73

PAO This is Skylab Control at 9 hours
25 minutes Greenwich mean time. Flight Director Don Puddy
is en route to the News Center for the Change of Shift
Briefing. That news briefing should begin within the next
few minutes. Should we acquire at Carnarvon during the
news conference, we'll tape and play back any conversation
at the earliest opportunity. To repeat, the Change of Shift
News Conference with Flight Director Don Puddy will begin
within the next few minutes. At 9 hours 26 minutes, this
is Skylab Control.

END OF TAPE

COMPOSING MESSAGE MCC

SL-II MC-1256/1

Time: 04:43 CDT, 27:09:43 GMT
6/20/73

PAO This is Skylab Control at 9 hours 44 minutes Greenwich mean time. We're back live now on air-to-ground. We've got approximately 1 minute of tape. We'll play that at the earliest opportunity. We'll stay up live now through Carnarvon.

CC SPT, Houston. Not to belabor the point but just give you a few more words on this ED-31. The message we sent up last night should have been a little more - should have been a little better explanation there. It shouldn't have said, "disregard," it should have said that we're going to do this later. We made a goof I guess in that we modified the experiments checklist to indicate the stowage of ED-31, whereas we should have been including it in the deactivation checklist. And that's the - the message this morning should have explained that a little more, instead of leading you to believe that we weren't going to bring it home. We'll - the deactivation information we'll send up will have this the content of that page 1-10 that we told you disregard - it'll be there. And also, some more words on how to tie it in the command module.

SPT Okay.

CC Skylab, Houston. About 1 minute from LOS. Guam at 53 and for info - I don't know whether it was (garble) up enough this morning but we're on gyros Y-1 and Y-3. We had another integral failure on Y-2 last night.

SPT Okay.

PAO This is Skylab Control at 9 hours 50 minutes Greenwich mean time. We've had loss of signal at Carnarvon. We have about a minute and 20 seconds in tape during the news conference. We'll play that and then go on into the Guam acquisition live. Let's play the tape now.

CC Skylab, Houston through Carnarvon for 10 minutes. And for information, we'll be commanding the drift update to Y-2 gyro.

SPT Okay, Houston. This is the SPT and I've got a choice for the medical people on returning the stuff that needs to be chilled. I can put everything in one large overcan with no heat sink, or I can use two large overcans and have a heat sink in each. I'd like to know which one they want. That's all I need to know.

CC Okay. I'll get an answer.

SPT Very good.

CC SPT, Houston. What we want is everything in two cans with a heat sink in each. And regarding ED-31

SL-II MC-1256/2

Time: 0443 CDT, 27:09:43 GMT

6/20/73

CC there is a stow message onboard that you got several days ago 2329 it looks like - 2325 Bravo. And we'll also be sending up some stuff tonight on deactivation checklist. So we'll have some more words on ED-31.

SPT Okay. Well, I hope don't think I need any. The confusing thing was that this morning's pad they ignored that ED 13 - ED-31 stuff that you got before. But I'll just go ahead and put everything in two cans.

CC Roger. That message was confusing and we apologize.

SPT Okay. Just don't send me any more now.
PAO This is Skylab Control. That is the end of the tape. We'll stand by live now for acquisition at Guam in about 1 minute.

END OF TAPE

SL-II MC-1257/1

Time: 04:52 CDT 27:09:52 GMT

6/20/73

CC Skylab, Houston through Guam for 9 minutes.

CC Skylab, Houston. We sent you up a message on day 27 transfers. I got one small change for that whenever it's convenient.

SPT Go ahead.

CC Okay. Under W-748, where it says "med kit bag, place drugs, and etc.," we want to delete the reference to the drugs in the IMS checklist. It should read, "med kit bag, place anti-fog ampules, etc."

SPT Roger.

CDR Hey Hank, CDR.

CC Go ahead.

CDR Take a note to talk to me when I get back about locker A-8 and all the cushions in it, where they're supposed to go, and for the back part of A-8 H Alpha 1, SO 56,52 and (garble) 54 and all that business. It's kinda goofed up.

CC Okay, will do, Pete.

CDR (Garble) the lockers and the straps don't match is what I'm trying to say. And I've been puzzling over it for a long time, and I think I'm right.

CDR Hey Hank, CDR.

CC Go ahead.

CDR I faded out. They put the SO56 cushion where the H Alpha 1 cushion should have been and vice versa. Now once I got that sorted out, it all makes sense.

CC Okay, copy.

CDR The reason that happened is both cushions look to me like they're almost identical. And they have three black alignment marks to line up with three white alignment marks in each place, and they're interchangeable. And somebody just got them in backwards.

CC Okay. You think it's gonna work all right once you got it reconfigured there?

CDR Now that I got the cushions sorted out, it all matches up with the drawings on 3-5, and everything is super.

CC Okay.

CC Skylab, Houston. One minute to LOS. Goldstone will be coming up at 19, and we've got your press conference there. And we'll be using a procedure like we used before. We got a list of questions. As soon as we give the AOS, they'll probably start out on the questions.

PAO This is Skylab Control at 19 hours 3 minutes Greenwich mean time. Guam has loss of signal with Skylab. We're 15 minutes away from acquisition at Goldstone. During this next pass over the United States the crew will

SL-II NC-1257/2

Time: 04:52 CDT 27:09:52 GMT

6/20/73

participate in a news conference, which will be televised live and in real time. CAP COMM Henry Hartsfield will be reading up questions prepared by newsmen covering the mission. We'll come back up just prior to acquisition at Goldstone. At 10 hours 4 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1258/1

Time: 05:15 CDT, 27:10:15 GMT

6/20/73

PAO

This is Skylab Control at 10 hours 15 minutes Greenwich mean time. We're about 3 minutes away from acquisition at Goldstone. A message was sent up to the crew late yesterday by teleprinter with procedures for leaving the orbital workshop and for entering the command module. Under the title: "Goin' Home", Goin' Home, this is the message procedure for leaving OWS. One, sweep out OWS; two, turn refrigerator on low; three, turn out lights; four terminate paper delivery - teleprinter paper, that is; five, set air conditioning thermostat; six, inform any nearby neighbors that you'll be gone at least a month; seven, put garbage out, and pray for a pickup; eight, pack carefully - be sure to include clean pair of socks; nine, put the cat out. Procedure for entering the CSM: one, clean feet before entering CSM; two, sit down and fasten seat belts; three, adjust rear-view mirror; four, release emergency brake; five, exercise particular care in backing up; and six, drive carefully and go straight home. We'll stand by now for acquisition at Goldstone and the start of the in-space news conference.

END OF TAPE

LIVE TV
CREW PRESS CONF

SL-11 MC-1259/1
Time: 05:17 CDT, 27:10:17 GMT
6/20/73

CC Skylab, Houston stateside for about 19
minutes, and we've got a picture.
PLT (Garble)
PLT (garble) on the line (garble)
PLT Houston, Skylab. Do you read?
CC Roger. Read you loud and clear.
PLT Okay, that's the (garble) we can do.
CC That was a little bit weak.
PLT Well, I'll get my (garble) away from it.
How's that?
CC Okay, that's a little better.
PLT How's that, Hank?
CC Hey, that's a lot better.
PLT Ah ha.
PLT Oh, you've made a great breakthrough
in lightweight headset technology. It took us 27 days
to figure out you're supposed to talk into the spongy part.
CC You fellows ready to answer a few questions
this morning?
PLT Yes.
CC Okay, the first one is for Dr. Joe Kerwin,
the first medical doctor in space. As far as you can tell
now, what affects have you noticed from weightlessness? Does
there appear to be a leveling off effect as far as zero-g
changes are concerned?
SPT Well, right now the score is man 3, space
nothing, but it's a little early in the game. There appears
to be a leveling off. In fact, there appears to be little
or no change in some of our experiments, and there appears
to be some change in the others - possibly still continuing.
I guess let's wait until we get down and look at the data
before we make any rash decisions, but I'm very encouraged.
CC Joe, you're sliding in and out of view.
There you are.
SPT I'm also done answering that question.
You can go to the next one.
CC Okay, for Commander Conrad: Please give
us your assessment of the mission and what you feel have
been your most significant accomplishments, especially
from a scientific view point.
CDR I guess our most significant accomplishment,
from the point of view of where we started this mission on
May the 15th, was that we have now, I would say, a 90 percent
up-operating space station to turn over to the SL-111 crew.
and probably even more significant in my mind and also to go
along with what the Doctor said but I'll have to wait until
the people on the ground look at our - our physical data.

SL-II MC-1259/2
Time: 05:17 CDT, 27:10:17 GMT
6/20/73

I believe that man has once again proved that he can operate efficiently, well, and happily in space in the operation of a space station. Now I think that also contributes to the scientific end of the thing. I have no idea what they're going to find on our data. We did get a flare, we've operated the ATM, we've operated all the experiments to the best of our ability - all of those we didn't do perfectly, but everybody has a learning (garble). And I think we've proved the timeline and only time will tell the exact scientific returns from the experiments that we've performed.

CC

briefly on how you like the Skylab food?
SPT

been easier to eat than I anticipated it would, and I've been eating more than I thought I would.
CDR

on the ground, and I still don't like them up here, although I managed to get them down. I think one or two other items that I thought that I would like, I just don't really care for up here, and some that I didn't care for too much on the ground came in pretty strong up here. But I managed to get it all down. Plus I've found that I've had to eat more, and that puts me a position of eating my own words about the food right now because I never thought we'd eat this much. And frankly, I could probably eat a little bit more of the food, and it's good food.

PLT

That last statement was made by the butter cookie king of Skylab. (laughter) There are some complaints that I have about the food, and that in itself is very encouraging, because it means the living up here is not so rough that you don't have time to bitch about something.

CC

For Commander Conrad: Do you notice any difference in your physical condition compared with the end of your previous missions?

CDR

Well, again the doctors may make me eat my words, but I have the feeling at the end of 28 days that I'm going to be in better physical shape than when I came back from any one of my three previous flights, except maybe Gemini 11, which was too short duration.

END OF TAPE

CREW PC
LIVE TV

SL-II MC-1260/1
Time: 05:24 CDT, 27:10:24 GMT
6/20/73

CDR Well, a team of doctors may make me eat my words, but I have a feeling at the end of 28 days that I'm going to be in better physical shape than when I came back from any one of my previous flights, except maybe Gemini 11, which was too short a duration. I'm certainly, right now, feeling one heck of a lot better than I did at the end of 8 days of Gemini 5 just say before retro-firing Gemini 5, because that was complete confinement. And I now have a 28-1/2 inch waist, and I started out with about a 30. And I've lost a little around the legs, and I don't believe I've lost any in my arms. I think with the bike up here, which I've found that I absolutely have to ride every day and want to ride to get exercise, I think I'm in as good a shape right now almost as when I left on May 15.

CC

That May 25th?

CC

Okay, for any one. What is the biggest problem you think that Captain Bean and his crew will face on their 56-day flight?

CDR We've been trying to kick it around, and I can't put my finger, I don't think any of us can put our finger on anything. I think the fact that Captain Bean and his crew are three individuals different than the three of us, perhaps what we like they won't like, and perhaps what we didn't they will like. And I would hesitate to make any guesses, for Captain Beano, what he's going to like or dislike up here, or his crew.

CC

You were coming in pretty weak that time, Pete. We've got a related question for all three of you. Please tell us of any particular suggestions you plan to make to the follow-on crews as a result of your experiences.

PLT

Well, that's a pretty tough one to answer here, Frank. I don't think I have any general suggestions. We're going to go down and we're going to debrief them. I plan to take Jack by the hand and sit down with him and talk to him as long as he wants. And walk through the trainers, and just kind of jog my memory, and just tell him the things that I found out and the way we did things. And that's all there is going to be, a report to him, and it's going to be up to him to accept them or disregard them as he sees fit.

CDR

I generally think that is true. By walking through with them, we will at least get them over the learning curve that we had. And as I said, before we even flew this flight, the idea for us was to get this thing going, find out how long it took to do the various experiments, and come down and give those

SL-II MC-1260/2

Time: 05:24 CDT, 27:10:24 GMT
6/20/73

guys a super-good timeline so that they will be more efficient than we were, and they should be. I think that right now, the last couple of days, we were pretty well at our peak of getting things done, and we get around this spacecraft pretty darned well now.

SPT Right. One of the things we're going to tell them is don't worry about this, don't worry about that. One of the things that - - it is to the job training. I think I'll be able to go back and tell the guys that if you can run the ATM in training, you can run it up here. If you can do the medical experiments in training, you can do them up here. You get used to the differences - to the different body English that you need. The hardware, by and large, is in (garble) shape. The procedures, by and large are in great shape. We've been debriefing day by day during the flight. And I think the most important thing we have to say to them is to give them a pat on the back, and say good luck.

PLT I want to add one thing to that, Hank. I can't say too much for the fidelity (garble) By having the fidelity of the trainers that we have - (garble) tell the difference and it really paid off. The things that are easy to do in the trainer are easy to do here like 80 percent of the time. And the things that are difficult to do in the trainer are likewise here.

CC Okay, we have a little comm problem now. I'll get the next couple of questions here in a minute.

END OF TAPE

SL-II MC-1261/1
Time: 05:29 CDT, 27:10:29 GMT
6/20/73

CC Okay. It looks like we've got a comm problem licked. For Paul Waits, do you feel that Skylab systems are in good enough shape to support the two 56-day missions for their full duration?

PLT You betcha.
CC Okay. The last question for each one of you; what has been the most fun for you in living in Skylab and did you get any surprises from living in weightlessness?

CDR Well if you want to get technical, perhaps disorientation and after a few moments in here it all went away. And you can get yourself disoriented a little bit, but it's only because of ziggling around in zero g. And, of course, that to me is fun (garble).

CC You're dropping out on us.
SPT We're just dropouts. I'll bet after this Skylab experience, you couldn't (garble) Apollo spacecraft for 2 weeks. The size of this thing and the fact that, every time you have to go from here to there it's a little adventure. It's just been terrific. That and looking out the window are endless sources of delight that I - I don't think we could ever exhaust. I thing they'll sustain Al Bean, and Jerry Carr and their troops throughout their 56-day (garble).
SC There have been many surprises and I guess the main ones have been (garble) what Pete said.
SC (Garble).

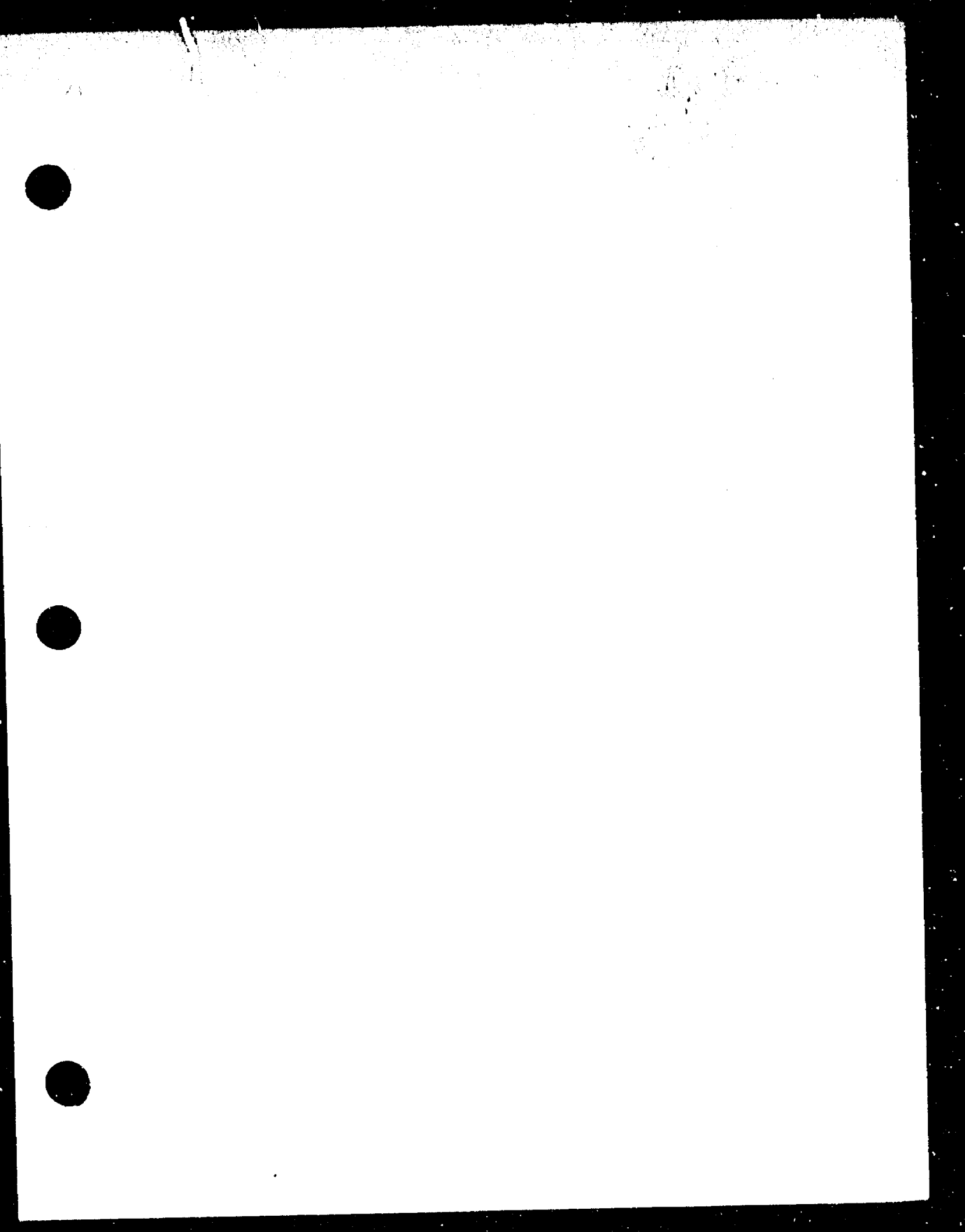
CC Roger. That was the last question. We've got about 4 minutes left here. Have you got any last comments you want to make?

CDR Yeah. I'd like to say publicly how much we appreciated the support from the ground. Especially with all the last-minute things that were done to put this spacecraft back in shape, all the EVA work. And although we laughed and kidded about banging CBRMs with hammers and so forth, it all worked. The support from the ground has been fantastic.

SPT Second and shortly, what I was going to say was, medically and subjectively, what has been such a pleasant big surprise to me is how nice we feel. We're able to get up in the morning, eat breakfast and do a day's work. I'm tremendously encouraged about the future of long-duration flights for that particular reason. Guess that's it.

CDR See you on the ground.
CC Okay. And thanks for the nice words. We've got about 3 minutes left here before LOS.

END OF TAPE



LAST COM ON LINE NEWS CONF
HAS BAD, BDA ANTENNAS

SL-II MC-1262/1

Time: 05:35 CDT, 27:10:35 GMT
6/20/73

CC Skylab, Houston; one minute to LOS,
Carnarvon at 17.

SC Rog. Say, Hank. (garble) Last night I bet
you that one of (garble) cleaned up in the stowage was where to
put the TV power cable on the operative-good TV when we stowed
it. Be advised that the place that we use it the most is the
642 panel, and I'm going to leave it plugged into the 642 panel,
neatly wrapped up. Okay?

CC Roger. Copy.

SC Thank you.

PAO This is Skylab Control at 10 hours
38 minutes Greenwich mean time. Skylab is beyond Bermuda's
Range now. The next station to acquire will be Carnarvon
in about 38-1/2 minutes. Communications during the latter
part of that news conference were bad due to the look angles
on the antennas at Bermuda. We'll come back up just prior
to acquisition at Carnarvon. At 10 hours 38 minutes, this
is Skylab Control.

END OF TAPE

SL-II MC-1263/1

Time: 06:15 CDT, 27:11:15 GMT

6/20/73

PAO This is Skylab Control at 11 hours
15 minutes Greenwich mean time. Skylab coming up within
range of the Carnarvon Station. We'll stand by for conversa-
tion there.

CC Skylab, Houston; through Carnarvon
7 minutes.

CC And Skylab, we'll be having a data
recorder dump this site.

SC Thank you.

PAO This is Skylab Control. Pete Conrad
should be in the process of stowing the S183 ultraviolet
panorama experiment at this time. That experiment has been
in the antisolar scientific airlock. He'll take it out of
the airlock and stow it.

PAO Joe Kerwin and Paul Weitz are involved
in the M092 and the M171 medical experiments, the lower body negative
pressure and the metabolic activity, with Weitz as the subject and
Kerwin as the observer.

PAO Later today in about 4 hours, Weitz,
assisted by Kerwin, will install the S149 particle collection
experiment in the antisolar scientific airlock. And that
experiment will be run throughout the remainder of the day.

CC Skylab, Houston. We're about 1 minute
to LOS. Guam will be coming up at 31.

SC Okay, Houston. We're (garble) the last M092.

CC Roger. Copy.

END OF TAPE

SL-II MC-1264/1
Time: 06:24 CDT, 27:11:24 GMT
6/20/73

PAO This is Skylab Control at 11 hours 25
minutes Greenwich mean time. Carnarvon has had loss of
signal. Guam will acquire in about 5-1/2 minutes, and
we'll come back up then. At 11 hours 25 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1265/1
Time: 06:29 CDT 27:11:29 GMT
6/20/73

PAO This is Skylab Control at 11 hours
29 minutes Greenwich mean time. Skylab is coming up on
Guam acquisition now, we'll stand by.
CC Skylab Houston, through Guam, 6 minutes.

PLT Roger.
CC CDR Houston. You're going to be headed
up to look at something here about 11:45, a dump. And I've
got several things I'd like to get you to do at the ATM
console if it's convenient.

CDR All right, hold it just a second.
CDR Okay Hank, I'm there right now. Go ahead.
CC Okay. What we'd like you to do Pete,
is bring up the panel and change the canister roll to
plus 60 arc minutes. The reason we're doing this is if
it's right exactly at zero, there's a remote possibility
that the ATMDC will misinterpret the exact zero as being
180 and try to move the canister. Of course the next time
it will pick it up, but we're just trying to avoid that
possibility.

CDR Okay, what do you want me to do?
CC We want to roll the canister to 60 arc
minutes.

CDR Plus 60, okay.
CC And the other 2 items while you're there,
we'd like you to bring up the star tracker, the pad is still
good. And we also want to look at the BAT 15 talkback, and
see what it's doing now.

CDR Hey, there's plus 60.
CC Thank you sir.
CDR Yes, I saw the BAT VOLT talkback.
CC Say again, Pete.
CDR CBRM 15 I saw the BAT VOLT talk-

back.
CC Roger, copy. And the other thing is
bring up the star tracker.

CDR In work.
CC CDR Houston. Stand by on the star tracker.
We're in a dump now, you're not going to be able to get it.

CDR Okay.
CC Sorry about that.
CDR Well I mag catch this dump when it
comes out. It is at the right angle now.

CC Okay.
CDR Anything else?
CC Anything else you want done?
CDR No, that ought to do it, Pete. Thank you
CC very much.

SL-II MC-1265/2
Time: 06:29 CDT 27:11:29 GMT
6/20/73

CDR Okay. I'll try to catch it when we come
out in the sunlight (garble)
CC Okay. And we're about a minute from
LOS. Goldstone will be coming up at 55. And I guess you
and Joe got this dump to coordinate here shortly. Or the 92 vent,
that is.

CDR Yeah, say, it's not clear to me where
you want that. General message said look out the CM 5 window,
but photos are out with that 243 in the wardroom window.
Is that correct?

CC Let me check that one.
CDR Yeah, I need - it slipped my mind, I
meant to ask you about that.
CC Okay, I guess those different observa-
tions. We don't want any photos here, we just want you
to look.

CDR Oh, hold it. I've got a photo pad for
142, I think. That pad, I think, is for the contamina-
CC tion photos.

CDR Oh, okay. Well, I'll just hold up on
this one. I've got it, I see. Thank you. Yes it says
observe (garble) and contamination photos, and I put them
all together into one big thing. Okay.

END OF TAPE

SL-II MC-1266/1
Time: 06:38 CDT, 27:11:38 GMT
6/20/73

PAO This is Skylab Control at 11 hours
39 minutes Greenwich mean time. Guam has loss of signal.
Skylab will next be acquired by Goldstone in 16 minutes.
The vent observation being discussed between Conrad and the
CAP COM has to do with the venting of the M092, the lower
body negative pressure device. The desire there is for
Conrad to observe that venting on the outside of the vehicle.
We'll come back up just prior to Goldstone. At 11 hours
40 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC1267/1
Time: 06:53 CDT, 27:11:53 GMT
6/20/73

PAO This is Skylab Control at 11 hours
53 minutes Greenwich mean time. Skylab is coming within
range of the Goldstone station now. We'll stand by for that
pass.

CC
CDR
anything.

Skylab, Houston. Stateside for 14-1/2 minutes.
Okay, Hank. On the vent I couldn't see

CC
where close to the STS?

Roger, copy. And where are you now? Any-
Yeah, what do you want?

CDR
CC
MDA PORT HEATERS. Primary and secondary CLOSED, and that's
the top left center row.

CDR
OPEN; they're both CLOSED, PRIMARY and SECONDARY.
Okay, MDA PORT HEATERS: both of them are
to, on panel 203, verify the - or if they're not off, open the
MDA HEATERS PORT CSM switch to OFF and the spare switch to
OFF.

CDR
CC
I got one other thing here. If you finished closing out the
S183, is there (garble) one?

They're both off, and they were off.
Roger, Copy. Thank you very much. And

CDR
CC
a decision to bring back that damaged film plate, the one
that you took off of there on day 154. And when you get
a chance, what we'd like to do is wrap it in a towel or
(garble) cloth bag and use the gray tape to tape it to the flat
surface on the outside of the 183 film carousel, 1-2.

CDR
Bring it back, too?
Okay. What are you going to do with 1-1?
1-1 is coming back also.

CC
CDR
CDR and SPT to get in your PT, you're clear to delay the
med deactivation as necessary.

SC
CC
we got those port heater circuit breakers closed, we're going
to run a command check on them. We'll just turn them on
and back off again.

Okay, Hank. The contamination photos are

CDR
complete.
CC
CC

Roger, copy.
CDR, Houston. Do you still have a message

SL-II MC1267/2

Time: 06:53 CDT, 27:11:53 GMT
6/20/73

we sent up on day 23 regarding the service module quad A
procedure to vent it to the PSM?

CDR
it, yes.

Surprisingly enough, now that you mentioned

CC
warm up. My tank pressure oxidizes now to 204 psi, and at your
convenience and with pad and coverage, we'd like to go up
and run through that and leave Quad A. We got about 4-1/2
minutes left on this pass. You think you got time to get
it done?

I'm looking at it.

SC
SC
talkbacks - two of them gray. That is true. And then I'm
going to go ahead and open the TSM. I have done that.

END OF TAPE

DEACTIVATING PROCEDURES
AND DEACTIVATIONS DELAYS

SL-II MC-1268/1

Time: 07:06 CDT, 27:12:06 GMT

6/20/73

SC It looks like it already did the job.
CC Roger. It looks like it to us, too.
CC Okay. It looks good to us. So you can
go ahead now and complete the procedure.
SC ATSM quad A (Garble) is closed,
and the talkback is barber poled. And I'm going back to (garble)
(loud whistle).

CC Okay. Good show. Thank you a lot, Pete.
CC Skylab, Houston. One minute to LOS,
Vanguard at 21.

PAO This is Skylab Control at 12 hours
10 minutes Greenwich mean time. And Merritt Island Station
has loss of signal. The Vanguard Tracking Ship will next
acquire Skylab in about 10 minutes. Quad A is that service
module reaction control system quad on which the temperatures
have been running above what had been expected. Along
toward the latter part of this pass, Pete Conrad was asked
to go up into the command module, open a couple of valves, and
relieve the pressure that was building up in that quad.
Also during this pass we advised the crew that they can
delay the medical deactivation until after Conrad and Kerwin
have gotten in their exercise today on the bicycle ergometer.
Included in the medical deactivation is the stowage of the
restraints on the ergometer, and the crew would not be able
to ride the bicycle after deactivation takes place. Paul
Weitz has already gotten his exercise this morning, when
he did the M171 medical experiment - the last run of that
experiment, which is performed on the bicycle ergometer.
We'll come back up just prior to Vanguard acquisition. At
12 hours 12 minutes Greenwich mean time, this is Skylab
Control.

END OF TAPE

SL-II MC-1269/1
Time: 07:18 CDT 27:12:18GMT
6/20/73

PAO This is Skylab Control at 12 hours
19 minutes Greenwich mean time. We're standing by for
acquisition at the Vanguard. Skylab will be through there -
acquisition duration about 8-1/2 minutes.
CC Skylab Houston, through Vanguard 8 min-
utes.
PLT Well, it must be coming right over the top, huh?
CC Well, not really, just sort of a grazing blow
there.
PLT Oh.
CC Skylab Houston. That star should be
available now for star tracker.
CC Skylab Houston, for the SPT.
SPT Go ahead.
CC Hey, Joe, sorry to hit you with this
right at the end here but, on page 318 of your checklist
there at the end of the M170 run - 1 run - I guess there is some
concern here about getting the MS chamber there all evacuated
out. So we'd like for you to perform the MS sample (garble)
valve close, and use a 5/32-inch Allen bit, torque
handle 40-inch pound. And we want to close it up now, and
then the iron pump will continue to run for another hour
or so, and really pump her down. This is to preclude some
sort of a lockout on SL III.
CC And Skylab, 1 minute to LOS. We'll be
coming up on Goldstone at 32 with a data recorder dump.
PAO This is Skylab Control at 12 hours
29 minutes Greenwich mean time. Skylab is out of range
of Vanguard tracking ship. The next station to acquire
will be Goldstone in 1 hour 2-1/2 minutes. We've had some
requests to replay the audio portion of the crew's inflight
news conference this morning. That conference started
about 5:18 a.m. central daylight time. The tape of that
conference is ready now, and we'll replay that on this line.
(Refer to tapes 1259, 1260 and 1261.)

END OF TAPE

PROCEDURES RECOMMENDED
FOR SL III

SL-II MC-1270/1

Time: 08:30, CDT, 27:13:30 GMT

6/20/73

PAO This is Skylab Control at 13 hours 30 minutes Greenwich mean time. Skylab coming up within range of the Goldstone Station now. We'll stand by.

CC Skylab, Houston; stateside for 7-1/2 minutes.

PAO This is Skylab Control. The crew's still in their lunch period now. Following lunch, transfers will begin of equipment to be brought back, transferring them from the orbital workshop to the command module.

CC We've been having a little trouble tracking down the answers to the EREP questions. And Al has got an interest for his crew, and answers to a couple of them. Would it be convenient to get a couple of answers here, real-time?

SC Yeah. Go ahead.

CC Okay. I guess the ones he's concerned with are, should the SL-III and IV crews continue the T38 aircraft flights over the S191 site?

SC Affirmative.

CC Okay. And would you recommend that these - this type of trend be practiced on all the sites or just only on the more difficult ones?

PLT I recommend that if they have the time to practice it on all of them.

CC Okay. And would you recommend using the T38 with a VTS simulator in it or just a T38 looking through the canopy?

SC Both.

CC Okay. Is there anything else you'd like to add that might help in their training. They're - got about 2 weeks before they go into quarantine, and they're trying to get all that set up.

SC Well, I appreciate that and I elaborated quite a bit on the damn tape I don't know what's happening to those things.

PLT Yeah. Tell Jack or Al that you don't have time - Once you start looking for the site of track you don't have time to look at your photographs and all that key stuff, and back and forth. You've got to know the sites. And for that reason, the more looks they can get at it, and I can't emphasize too much how well - how much going out and looking at them from the airplane helps in flight acquisition and recognition. Now there's a - Looking at them through the canopy is, in order of magnitude, better than not looking at them at all. And looking at them through the VTS is twice as good as that. So just getting out of any airplane and looking at them, there's ah - sure helps. It'll pay off in the end.

CC Roger. Copy.

SL-II MC-1270/2

Time: 08:30 CDT, 27:13:30 GMT
6/20/73

PLT But the big thing to do, on that, Hank,
is to be familiar with the sites. And all you're going to
use the book for is kind of refreshen your memory and
jogging you on some checkpoints that you have things to
look for. But you don't have time. You stick your face in
that telescope and that's where you stay from then on.
CC Okay. Thank you, Paul.

END OF TAPE

SL-II MC1271/1

Time: 08:38 CDT, 27:13:38 GMT

6/20/73

CC Skylab, Houston. We're about 1 minute to LOS. Vanguard will be coming up at 58, and sometime within the next 10 minutes we'd like to get the star tracker up. If you don't, we'd like to get the MPC to inhibit so we can command the wedges over Vanguard.

CDR

Okay, the star tracker in work.

PAO

This is Skylab Control at 13 hours 45 minutes Greenwich mean time. Texas station has loss of signal. The Vanguard will acquire in 16-1/2 minutes. During this pass, CAP COM Hank Hartsfield passed up some EREP questions from the Skylab-III crew, commanded by Al Bean, asking the crew's evaluation of EREP training in aircraft, T38 aircraft, over the sites. Paul Weitz responded that flights over the sites were certainly a big help, and he recommends that the crew do this kind of a training prior to their mission. In the Pacific at this time the U.S.S. Ticonderoga is conducting a recovery simulation. We'll come back up just prior to acquisition at Vanguard. At 13 hours 47 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1272/1

Time: 08:56 CDT 27:13:56 GMT
6/20/73

PAO This is Skylab Control at 13 hours
56 minutes Greenwich mean time. Skylab is about to be
acquired by the Vanguard. We'll stand by for this pass.

CC Skylab Houston, through Vanguard for
8 minutes.

CC Skylab Houston. For info we're going
to clear the ACS ALERT light.

CC Skylab, Houston. About 1 minute from
LOS, next contact is Hawaii, a little over an hour from
now at 07.

PLT Roger.

PAO This is Skylab Control at 14 hours
7 minutes Greenwich mean time. Skylab now out of range
of the Vanguard tracking ship. Next station to acquire
will be Hawaii in 58-1/2 minutes. At 14 hours 8 minutes
this is Skylab Control.

END OF TAPE

SL-II MC-1273/1

Time: 09:11 CDT, 27:14:11 GMT

6/20/73

PAO This is Skylab Control at 14 hours
12 minutes Greenwich mean time. A news briefing on recovery
operations and medical aspects of recovery will be held in
the Johnson Space Center news briefing room at 10:30 a.m.
central daylight time today. To repeat, a news briefing
on recovery and the medical aspects of recovery will be held
in the News Center briefing room at JSC at 10:30 a.m.
central daylight time. This is Sklay Control; out.

END OF TAPE

SL-II MC1274/1

Time: 10:02 CDT, 27:15:02 GMT

6/20/73

PAO This is Skylab Control, at 15 hours 2 minutes. Skylab will soon be within range of the Hawaii station for about a 6 minute pass there. The Commander, Pete Conrad busy at this time transferring equipment into the command module from the orbital workshop, equipment and experiment data that will be brought back. Scientist Pilot Joe Kewin equally busy with deactivation of the sleep monitoring experiment and other medical experiments. And within the next few minutes Pilot Paul Weitz should be deploying the particle collection experiment through the antisolar scientific airlock. That experiment will be operated unattended throughout the rest of the day. The ultraviolet panorama experiment which has been in that airlock was retracted and stowed several hours ago. Crew was allowed to sleep about 15 minutes late this morning as Skylab came within range of Goldstone. At wakeup time the surgeon reported they were sleeping soundly. Flight Director decided not to send the wakeup call until just before Bermuda loss of signal. About 5:18 a.m. Central daylight time this morning the crew did participate in a news conference which was televised. They answered a series of questions read up to them by the CAP COM. Questions had been prepared by newsmen covering the mission. Paul Weitz and Joe Kerwin also completed the last runs today on the lower body negative pressure and metabolic activity medical experiments. Following the deactivation of the medical experiments and the deployment of the particle collections experiment, the other crewmen will assist Conrad in the transfer. That will be followed la - - Here's AOS now.

SC Roger.

CC Skylab, Houston. I think the star tracker latched onto a - some kind of a particle outside. Would you bring it up at your convenience? Reacquire?

SC Yes sir.

CC Skylab, Houston. We're about 45 seconds from LOS. Vanguard at 34 and we'd like to get a current assessment of the wardroom window. We're trying to make our plans for deactivation.

PAO This is Skylab Control, at 15 hours 13 minutes Greenwich mean time. Hawaii has had loss of signal. The next station will be Vanguard in 21 minutes. Following the equipment transfer which is scheduled to continue to up until about 1:00 p.m. Central daylight time today, 18 hours GMT, the crew will inventory the items they have transferred into the command module, double check they haven't forgotten anything. And that activity will continue up into their presleep activity. We'll come back up just prior to - - Well, scrub that. The news conference will have started by the time we have Vanguard acquisition. We'll tape through Vanguard and play that tape back after the briefing on recovery operations on the medical aspects of recovery. At 15 hours 14 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1275/1

Time: 11:37 CDT, 27:16:37 GMT

6/20/73

PAO Skylab Control at 16 hours 37 minutes 23 seconds Greenwich mean time. We have a - the Vanguard pass during the last revolution has now been recorded, and we will play that back to you at that time. This is air to ground from Vanguard during the last pass.

CC Skylab Houston, through Vanguard 10 minutes.

CDR Okay, the SPT is headed for the star tracker to salvage the situation. And PLT will talk to you about the OWS windows.

CC Okay, ready to copy.

PLT Hey, wait until you talk to Joe about the star tracker, Hank.

MCC Assistance, corollary.

CC SPT Houston. Are you in trouble with the star tracker?

SPT Too soon to tell. (garble)

CC Skylab, we'll be dumping the recorder at this site.

SPT Okay, I've got a star.

CC Okay, good show. Paul, what can you tell us about the window? How does the fogging look now?

PLT Wait a minute, let me get a picture of you, from it - for you. It's a good right angle, let me get it, and I'll be with you in a minute.

CC Okay.

PLT Okay, the foggy is all gone. Now it's - the foggy only occurred because I turned the heaters off. Now what we have right now is a spot of ice. It's egg shaped just about as big as (garble) cross section. It is a relatively clear ice that has a lot of - it's a crazed pattern like ice that has been cracked. And in one corner of it the outer edge is a raised spot which is the nucleus of the whole thing. That's the part that was there when we first took the cover off. That's - I estimate 1/16 to 1/8 - that's hard to tell - 1/16 to 1/8 of an inch thick, and almost, but not quite, 1/2 inch in diameter.

CC Roger, copy.

PLT That's it. There is something else that we've also got on here. I don't know if we mentioned it to you before or not. It should show up in these pictures. Where the vent hole comes in between the panes there, at certain times, especially after a night pass, it is more noticeable than after you have been in the light a while, there is just a little faint fog pattern like as though air had been coming in and out through that vent port although we've had it closed except for that couple of days that we left it open.

SL-II MC-1275/2

Time: 11:37 CDT 27:16:37 GMT
6/20/73

CC

Roger.

PLT

It's like an exhaust shake, like an exhaust plume that - it starts right at the edge of the window and gradually gets wider until it just kind of peters out here in the middle of the window.

CC

Paul, where is this high spot located relative to the window? Is it right in the middle?

PLT

Yes sir. Without measuring it I can't tell you that. It's out in the middle. For all practical purposes, it's right in the middle. Standing on the wardroom floor, looking at the ice spot then the rest of this ice pattern and the ice spot is in the lower right-hand part of this egg shape (garble) that I described to you.

CC

Roger, copy.

CC

Skylab Houston, 1 minute to LOS, Hawaii at 42.

CC

Houston through Hawaii for 10 minutes.

PLT

Hello.

CC

We have AOS at Hawaii.

END OF TAPE

1276

SHOT DOWN STARTTACKER
UNTIL TONIGHT

SL-II MC1276/1

Time: 11:42 CDT, 27:16:42 GMT
6/20/73

CC Skylab, Houston. We see that the star tracker's broke lock again. The reason we're trying to keep this thing locked up is we're trying to get some drift rate on the gyro Y2, and we got G gyro. And we're so far between stations we're not getting very good information. So rather than sit there and keep messing with it then, we'd like for you to close the shutter and power it down in the SEVA. And just before you go to bed, when we got a little more frequent station contacts, we'll try to bring it up again.

SC Okay, we'll power it down.

CC PLT, Houston. How did the 149 setup go?

PLT It went okay.

CC Roger.

CC Skylab, Houston. One minute until LOS. Vanguard coming up at 13 with a data recorder dump.

SC Roger.

PAO Skylab Control at 16 hours 53 minutes and 34 seconds Greenwich mean time. We have lost signal at the Hawaiian tracking station after the playback of the Vanguard and we're live for Hawaii. And completing that we have 19 minutes and 15 seconds before our next acquisition of signal again at Vanguard, and we will be back up at that time. This is Skylab Control at 53 minutes 56 seconds after the hour.

END OF TAPE

SL-11 MC-1277/1
Time: 12:11 CDT, 27:17:11 GMT
6/20/73

PAO Skylab Control at 17 hours, 11 minutes and 4 seconds Greenwich mean time. We are now about a minute and 54 seconds from acquisition of signal at the Vanguard Tracking Ship. During this last pass there was some discussion of the star tracker, which has been giving us a little bit of a problem during the past day or so. And we may hear something about that after the Vanguard pass. This is Skylab Control remaining live for acquisition of signal at Vanguard.

CC Skylab, Houston; through Vanguard 8-1/2 minutes.

SC We're really here, Houston.

CC Say again.

CC Skylab, Houston. For info, we're going to command S149 power ON to get some temp measurements.

SC Okay.

CC Skylab, Houston. Been having a little problem here with the COMM. I'm just making a COMM check now and disregard.

CC Skylab, Houston. About 40 seconds to LOS Hawaii at 23.

CC That's about an hour from now.

SC See you then.

PAO Skylab Control at 17 hours 22 minutes and 9 seconds Greenwich mean time. We have lost acquisition of signal at Vanguard. We will not pick up another signal for over an hour from now. And that will be at the Hawaiian Tracking Station, a very low elevation pass, 2.4 degrees above the horizon, very nearly on the horizon during its entire pass, as it travels to the southwest of Hawaii. Because that is a low elevation pass, the total time of communications at Hawaii will be about 2 minutes and 13 seconds. Normally we do not acquire signals that are below 3 degrees, which is so close to the horizon that it is difficult, sometimes, to get communications, but there is a rule that instructs us to get at least 2 communications passes per revolution. This will be our second one in the 535th revolution about the Earth. The star tracker on the spacecraft, which is used in attitude control, has been powered down during a previous revolution. The star tracker's field of view normally is the southern hemisphere when the space station is in solar inertial attitude or when it's pointed toward the sun to receive power. There are three stars in the southern hemisphere used for observing. Canopus, Achernar, and Alfa Crux are the stars normally selected. And the star tracker is used to provide a night time reference for determining the attitude of the spacecraft when we are in solar inertial attitude and in the daylight, which is a good part of each revolution. We receive our data on attitude from the sun (garble) of the ATM, the Apollo telescope mount.

SL-II MC-1277/2

Time: 12:11 CDT, 27:17:11 GMT
6/20/73

But in the night time we use the star tracker for the same purpose. The astronauts aim in the general vicinity of the star using the control and display panel, and then they instruct the startracker to, by a computer, to begin an automatic scan of the sky, until it locates the desired target. When the star tracker detects light reflected from the earth or radiated by the Sun, a shutter closes to protect the star tracker's lens and it waits until the spacecraft returns to darkness to reopen that shutter. The star tracker was powered down during an earlier revolution. And has not, in fact, been used since late last night. The reason for that is, that the star tracker has been picking up particles in the vicinity of the spacecraft and following those rather than the star that it is designated to follow. For this reason, it is not dependable as an attitude control device. Makes very little difference at this time. The star tracker is not necessary for attitude control. It's used as an attitude reference system for very, very fine tuning of attitude. It is important during Earth resources experiment passes and will be used during the next manned Skylab mission. It's expected now, that the star tracker will not be used again until that manned mission, because it's not essential that it be used. It's only used for a very fine attitude control when we are, for example, in an Earth resources orientation, which requires a movement of the spacecraft and a very precise pointing towards targets on the Earth. So that star tracker has been powered down and won't be used again during the mission. At least that's the present expectation here, in Mission Control. During this last pass we turned on the SI49, or particle collection experiment equipment, just to gather some temperature readings on the instrument - get some indication of whether or not it was working properly. That was turned off from the ground just before we lost signal at Vanguard. Purpose of the particle collection experiment is to determine the distribution of very tiny particles or micrometeorites traveling in a vicinity of the spacecraft. The reason for doing this is to determine the surface erosion of the spacecraft - to determine how much actual damage is done by these small particles, how much of the material that the spacecraft is made of is eroded away by the striking of micrometeoroids on its surface. This will be used in designing future spacecraft and determine what thickness of metal should be used and what kind of surfaces would be desirable. Also, will increase our knowledge of space biology, because we will bring back the contaminates on the cassette in this particle collection instrument. And we should get some idea of what the makeup of those micrometeorite

SL-II MC-1277/3

Time: 12:11 CDT, 27:17:11 GMT
6/20/73

particles are and whether or not there are any amino acid precursors. That is very, very primitive forms from which amino acids, one of the basic substances of life, are formed. And that will be another secondary purpose of gathering data on particles in the immediate vicinity of the spacecraft. It's being done for a principle investigator at Dudley Observatory in Albany, New York. This is Skylab Control. We are now nearly 56 minutes from acquisition of signal at Hawaii, and we will come up again at that time. 27 minutes and 12 seconds after the hour, Skylab Control.

END OF TAPE

SL-II MC1278/1

Time: 13:20 CDT, 27:18:20 GMT
6/20/73

PAO Skylab Control, at 18 hours 20 minutes and 4 seconds. We have just had acquisition of signal at the Hawaiian tracking station and will remain live for air-to-ground from Hawaii.

CC Skylab, Houston, through Hawaii 2 minutes.
CC Skylab, Houston. We're about 1 minute from LOS. Vanguard at 51 with a data recorder dump.

PAO Skylab Control, at 18 hours 25 minutes and 59 seconds Greenwich mean time. We have now loss signal at the Hawaiian tracking station and will acquire again at Vanguard in little less than 25 minutes. Beginning about 9 a.m. this morning, Skylab Commander Charles (Pete) Conrad began moving dozens of items from the space station to the command module including nearly 10,000 feet of 16 millimeter film that's used to record experimental data. Film cassettes from the earth observation cameras that are used to photograph eleven - have been used to photograph 11 separate ground tracks across the United States, and across several other countries of the western hemisphere. In addition, Commander Conrad, with some assistance in the last hour and a half from Paul Weitz, moved samples, canisters, and magnetic tape reels from several space experiments. Also included in the list of items to be stored are small pieces of equipment that have not been performing properly, including a water dispenser valve. Today's stowage activity is preparatory for undocking very early Friday morning and for a splashdown to occur just before 8:50 a.m. Central daylight time, approximately 830 miles - statute miles southwest of San Diego, California. During the coming pass over Vanguard we expect the S149 particle collection experiment to be test operated. The S149 is to gather data on the size and shape of tiny particles or micrometeorites in the vicinity of the spacecraft. During the previous Vanguard pass, the revolution just completing, we did take the instrument and extend it on the boom outside of the antisolar scientific airlock, outside a small airlock in the side of the orbital workshop that's opposite the Sun. And that boom was tested earlier today for a mal - possible malfunction. It had malfunctioned the last time it was withdrawn. It is also used for the T027 and S073 experiment. It's an 18-foot-long boom that's used to extend this apparatus outside the workshop. The apparatus will be now tested. They did put it out for - to get temperature data over Vanguard, found that it was reading minus 31 degrees, which is well within the motor's operating range. And during the next pass over Vanguard they expect they will command that. It takes approximately 7 minutes to run one test on it. The device is opened up - has a series of four cassette panels, a

SL-II MC1278/2

Time: 13:20 CDT, 27:18:20 GMT
6/20/73

those open up at the command of the motor. Takes about 3 minutes for them to pop open and about 3 minutes to close them up again. The only purpose of this is to make sure that the experimental hardware's in operating condition. The Si49 will not be used until after the men have left the spacecraft. It's to acquire particle data and will begin acquiring that data approximately 12 hours after the spacecraft has left. They don't want to use it at this time because it would be contaminated by fuel from the engines and other residues that are left by the crew and command module when it departs. After - 12 hours after the undocking they expect to open up that instrument, which will still be out 18 feet from the spacecraft on a long boom. It'll be opened by a telemetry command from the ground and will remain open until approximately 12 hours before the rendezvous of the next Skylab mission - the second manned mission or Skylab III as it is called. So we expect that to occur over Vanguard provided they have sufficient time to do the commanding and get it back into a closed position at Vanguard, just to test the engines - test the motors that operate the experimental hardware. This is Skylab Control, at 29 minutes and 42 seconds after the hour. Our next acquisition at Vanguard in a little over 21 minutes.

END OF TAPE

SL-II MC1279/1

Time: 13:39 CDT, 27:18:39 GMT
6/20/73

PAO Skylab Control at 18 hours 39 minutes and 44 seconds Greenwich mean time. We are still 11 minutes and 15 seconds from acquisition of signal at the Vanguard tracking station and we'd like to make an announcement on our change of shift. We expect a change of shift briefing to begin at 2:15 p.m. Central daylight time today; that's 2:15 p.m. Central daylight time. That's earlier than our change of shift briefings have been running. The reason for that being that today there is no flight management team meeting, that's something we didn't know earlier. So, approximately 2:15 we expect offgoing flight director, Neil Hutchingson to be available for a briefing. The second flight director also on shift at this time, Phil Shaffer, may or may not be at that meeting. It depends on whether or not he gets out of the meeting he's in now. But we do expect flight director Neil Hutchinson to be available for a change of shift briefing at 2:15 p.m. Central daylight time today in the Building 1 small briefing room. We're still 10 minutes from acquisition of signal at Vanguard and we'll come up shortly before that. This is Skylab Control, at 40 minutes and 44 seconds after the hour.

END OF TAPE

SL-II MC-1280/1

Time: 13:49 CDT 27:18:49 GMT

6/20/73

PAO Skylab Control, 18 hours 49 minutes and 51 seconds Greenwich mean time. We are 1 minute from acquisition of signal at Vanguard and will remain live for that acquisition. This is Skylab Control remaining live for air to ground.

CC Skylab, Houston. AOS Vanguard for 10 minutes.

SPT Roger.

CC And we are doing a data recorder dump at Vanguard this time.

CC Skylab, Houston, 1 minute until LOS, Ascension at 19:04, 04.

PLT 04.

PAO Skylab Control at 19 hours 1 minute and 39 seconds Greenwich mean time. We've lost signal at the Vanguard tracking ship, and expect to acquire a signal again at Ascension in about 2 minutes and 53 seconds. At that time we should hear a call from the new on-duty flight controller. Flight Director Neil Hutchinson has indicated that he is approximately ready to depart for that briefing, which we expect to begin in about 10 to 12 minutes, at 15 minutes after 2:00 p.m. The new on-duty spacecraft communicator will be Robert L. Crippen, astronaut. He is coming on with the maroon team of flight controllers headed by Flight Director Milton Windler. During the briefing to begin at 2:15 p.m. central daylight time, we will have off-going Flight Director Neil Hutchinson, who has been on during the deactivation part of today's stowage list. That's stowing of objects from the orbital workshop and multiple docking adaptor into the command module. And he'll be qualified to talk about tomorrow's activities. The Flight Director Neil Hutchinson will be the only person attending that briefing. The other off-going Flight Director, Phil Schaffer, will not be available today for the briefing. This is Skylab Control, we'll remain live for air to ground from Ascension in about a minute and a half.

END OF TAPE

SL-II MC-1281/1

Time: 14:03 CDT, 27:19:03 GMT
6/20/73

CC Skylab, Houston; Ascension for 10 minutes.
CC Skylab, Houston; LOS in 1 minute. See
you again at Guam at 19:51, 51.

SC Roger.

PAO Skylab Control at 19 hours 15 minutes and
21 seconds Greenwich mean time. We have lost signal at
Ascension and will not reacquire the spacecraft until 35 minutes
and 11 seconds from now. Flight Director Neil Hutchinson has
left Mission Control and is going down for a taxi that is
waiting for him outside the building. He's expected to
appear at building 1 in approximately 3 to 5 minutes. This
is Skylab Control, there will be a briefing in 3 to 5 minutes
with Flight Director, Neil Hutchinson, in the building 1
auditorium. Skylab Control at 15 minutes and 50 seconds after
the hour.

END OF TAPE

SL-II MC-1282/1
Time: 14:49 CDT 27:19:49 GMT
6/20/73

PAO Skylab Control at 19 hours 49 minutes and 40 seconds Greenwich mean time. We have acquisition of signal at the Guam tracking station, and we'll remain live for air to ground.

CC Skylab, Houston. AOS Guam 7 minutes.
CDR Hi there.
CC Hello. How are you, CDR?
CDR Good after having been carried in the command module all day.

CC Where you guys have been? Y'all were so quiet, I thought you were hiding from us.

CDR No, we were just trying to stay on the time line.

CC I thought you were preparing the vehicle for Captain Bean and his crew.

CDR Well, we are. We're also packing our own bags. Say Crip, there are a few things on B channel today that the stowage people ought to look at.

CC Okay, and they appreciate all the information you've been giving them regarding stowage also.

CDR Okay. One thing that I want to have verified is: I have put the extra S183 into A4, and I wanted to know if that is all right., rather than in a BGA bag and tied down on top of the (garble)

CC Okay, we'll get clearance on that.

CDR Hey, you guys are being pretty quiet down there too. You're cooking up all the changes for tomorrow and the next day.

CC Well, Hank is still around here working on that sort of thing right now. Actually, I'm just sitting here loafing. Regarding your question on 183, if you managed to get that thing in A4, that's fine and dandy.

CDR I got it done; it only took a little crow bar, but I got it in.

CC Okay.

CDR (garble)

CDR The other thing, Crip, is I have two valves to dump command module water into the OWS system. And I also have this valve that is designed to put humidity into the workshop atmosphere. No where do I find anything to do that. Unless I hear otherwise, I'm going to trash it, in the trash basket.

CC Stand by on that, Pete.

CDR I think it's residing in A9 all this time.

CC Roger. It's the ones you keep in A9?

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CDR No, that's where they wound up. I
forget. I think they came from A3 originally, but
I don't really remember now.

CC Okay.

CC In the service module water - -
CC Skylab, Houston. We're about 1 minute
from LOS. We'll see you again over Vanguard at 20:28, and
we'll try to have an answer for you regarding those valves
and that atomizer. Our initial inclination is we'll probably
want to put them back in the workshop some place and save
them for the next mission in case we require them, but
we'll do a storage location for you.

CC Roger.

PAO Skylab Control at 19 hours 58 minutes
and 24 seconds Greenwich mean time. We've lost signal
at the Guam tracking station and will next acquire in
29 minutes and 27 seconds at Vanguard. We will return
at that time. This is Skylab Control at 58 minutes
and 39 seconds after the hour.

END OF TAPE

SL-II MC1283/1

Time: 15:26 CDT 27:20:26 GMT

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PAO Skylab Control, at 20 hours 27 minutes and 4 seconds Greenwich mean time. We are 50 seconds from acquisition of signal at the Vanguard Tracking Ship, and we expect to have a live air-to-ground and a call from spacecraft communicator, Bob Crippen. This is Skylab Control, staying live for air-to-ground.

CC Skylab, Houston. AOS Vanguard for 11 minutes.

CDR Hey, Crip; CDR.

CC Go, CDR.

CDR I been going through that locker in the bottom of my room that has the (garble) six crew members (garble) and also the supply - resupply module that has tooth brushes and the hand cream and the tooth paste and so forth.

CC Roger.

CDR And the - All the hand cream let go in there. It got too hot. We told you that before, but we really haven't had a chance to clean it up until now and - so I just went ahead and closed it over and all the toothpaste had let go too. And so I have thrown away all the toothpaste resupply, and I've thrown away all the increased resupply that was in the resupply kit. And I'm just about to go into the individual guy's kits, because every hand cream in their individual kits let go, and I've got to check the toothpaste also. And more than likely it may or may not have let go in the individual kits, and if so, I'll let you know. But those are two items that - they're completely wiped out up here. I don't think the other guys need to (garble).

CC Okay, appreciate that. And for your information regarding those items that you were talking about in A9, what we think you're talking about is this - the atomizer device. That we'd like you to stow in 440, D440 for us. And there were two QD devices: one was the waste water transfer QD and the condensate QD adaptor. Those should be stowed in M151 if we could.

CDR Okay, M151 for those and D440 for the atomizers - humidifiers. Roger.

CC Roger. And Pete, while I got you here, we've been having a little problem with those spots on the TV, and we'd like to try to get them cleaned up if we could. And I guess the question really is: Do you think you got time this evening to get the optics brush out of 524 and dust off the lens of both the external portion, and if you could remove it and get the internal portion too, we'd appreciate it.

CDR Okay.

CC Thank you.

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CDR Say Crip, you still there?

CC Affirm.

CDR Say, the other thing I haven't checked there is that none of them broke open, but our shaving cream was awfully hard. And I have a suspicion that that was due to heat also. I get the feeling that shaving cream - there is no toothpaste in the individual kits; so I've thrown away all the toothpaste. They are going to have to bring more of that. I've got the feeling that shaving cream, toothpaste, and hand cream have all gone bad too.

CC Okay, it's on note.

CDR Yeah, I won't throw away the shaving cream because it's not broken open, but I get the suspicion of something sneaky.

CC Copy.

SC Hey, Hank raised the vent up in the head. It was the only place I could open it up with just a (garble) sand collector to collect all the (garble) particles.

CC Okay. Some of the cream got out in the individual kits. It's felt that - you want to just throw them all away and resupply the whole kit, do you?

SC Well, we can do that because inside everybody's kit - yeah, it's broke open inside everybody's kit. I was just pulling the (garble) in the thing. If you think he can reach the (garble) kits, I just as soon get rid of them, because they're all dirty inside and so is the resupply module. It's filthy.

CC Okay. Why don't we take that under advisement down here and probably make some recommendation before you leave.

SC Okay, well, until you do, I'm going to stop throwing stuff away. I got other things I can do.

CC Okay.

SC I've already thrown away everything in the resupply kit, and I just finished Al Bean's and Joe Pogue's kits. And I'll stop right there.

CC Okay.

END OF TAPE

SL-II MC-1284/1
Time: 15:35 CDT, 27:20:35 GMT
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CC Hey Crip, you still there

CC Say again, please.

CDR I said are you still there? Question.

I have the TV lens, and it looks clean as a whistle inside, and outside I think, and how about if I change it out with the last that I stowed to leave on board on the (garble) camera.

CC Let us check that out please.

CDR Well, let me tell you this. I can see where the dirt is, and I'm not going to be able to get at it. It's on the next lens in from the front lens that's causing the spot.

CC Forget. Understand it's the dirt on one of the lenses that you haven't got access to.

CDR That's right. And let me make a suggestion that I bring both lenses home - use the good one and bring this one home, you clean them up and send them back.

CC Rog. I think they intended to bring bring both lenses back down anyhow.

CDR That's not my instructions, but if you say so and I haven't gotten into it yet. I've already stowed the other lens.

CC Okay, we'll look into that Pete. I guess right now we understand that the intent is to bring both TV cameras home. And these day 27 transfers should have said that. We'll check back into it for you.

CDR No, you've got it wrong. I'm bringing both cameras back, but it didn't say a thing about the other lens.

CC Ah so. Okay.

CDR Ah so.

CC Okay, we're about 30 seconds from LOS. We'll have you again at Ascension at 20:42. And we'll have a clarification of what to do with the lens at that point.

CDR All right.

PAO Skylab Control at 20 hours 39 minutes and 45 seconds Greenwich mean time. We have lost signal at the Vanguard tracking ship and expect to acquire Ascension in a little over 2 minutes. We have some additional temperature data now on a change made yesterday in the position of the parasol. Although some temperatures on outer walls of the space station are still 5 to 10 degrees above yesterday's level, one more night of study will be necessary to determine the effect of a slight rotation of the parasol to cover a hot spot in the orbital workshop. Temperatures in the orbital workshop living area of the spacecraft continue in the high 70s. Following yesterday's space walk to replace film and camera assemblies on Skylab's solar

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telescope mount, astronaut Pete Conrad suggested that the parasol be rotated to shade a hot spot on the workshop where a water tank is located inside the workshop. The parasol is used to cool off the workshop by protecting it from direct sunshine, which struck the surface of the orbital workshop when the aluminum meteoroid shield was ripped off shortly after the launch of the space station. Conrad reported yesterday morning that one of the two rods used to spread the parasol's rear section had not fully extended and therefore the parasol was missing a small area outside the water tank. After receiving an okay from mission control, Conrad rotated the parasol trying to estimate 15 degrees, the amount he had suggested during the EVA. About an hour later, the crew discovered that the outer walls of the sleep compartment were becoming hot. Mean while ground flight controllers had observed some sharp temperature increases on the external walls outside the habitation area. Before orders could be given from the ground, the crew reported that they had moved the parasol that part way. Commander Conrad said he had over shot by about 10 degrees, and he'd try to move it back to the proper 15 degree rotation. While very little effect was noticed in the room temperature over night, the sensors attached to structural points along outer walls of the space station have gone up on the side of the orbital workshop opposite that which the crew sought to cover. Unfortunately there are no structural sensors near the water tank hot spot, and internal temperatures in that area require long periods of time to reflect changes. In addition, the EVA activity yesterday raised temperatures about 1 degree in the workshop because of shutdown of coolant loops inside during the EVA activity. That happened during previous EVAs as well and is a common thing. We are now within range of signal at Ascension and we'll remain live for air-to-ground from there.

END OF TAPE

SL-II- MC-1285/1

Time: 15:42 CDT, 27:20:42 GMT
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CC Skylab, Houston; AOS Ascension, 6 minutes.
SC Rog.
CC Okay. And I guess this is the word on
the lens. We would appreciate if you'd taken that one that
you stowed and try it out, observe the TV monitor with each
lens and select the best one, and use that one for the fly-
around. You can stow the extra lens in B-6 - Bravo-6.
CDR Okay. You want to bring both lenses
home and ah - The other one I have I examined it carefully in the
Sunlight. It is obvious that - I don't know how this lens got
by inspection, because all those big blobs, which I can
see quite plainly, are on an inner lens.
CC Okay. Fine.
SC (garble) get the other lens, I don't know.
CDR You still there, Crip?
CC Affirmative. We're still over Ascension.
Actually, we'll probably get a pretty long pass here. We'll
probably have a small dropout between Ascension and Canary.
CDR Okay. The other lenses, (Garble) just
visibly, to the naked eye, are a lot better. (Garble).
CC Okay. Fine. Then that'll be the one
you'll use. Regarding those personal kits, we - Just forget
about cleaning them out and just leave them like they are.
We'll have them candidates for resupply, and if they don't
get a resupply, well the guys can clean out their own kits.
CDR Okay.
CC Skylab, Houston. We'll probably have to
drop you out for about a minute, between Ascension and Canary.
CC Skylab, Houston. I've picked you up
again once more, over Canary, for about 8-1/2 minutes and
we will be doing a data recorder dump over Canary.
PLT You still there, Houston?
CC That's affirmative, for about another
2 minutes.
SC Okay, Crip. We just decided - -

END OF TAPE

SL-II MC-1286/1
Time: 15:58 CDT, 27:20:58 GMT
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SC Still there, Houston?
CC That's affirmative, for about another
2 minutes.
SPT Okay, Crip. We just decided that, unless
you guys have any big objection, we're going to get a leg
up on this early bed, early get up stuff and we're going to
go to bed an hour early, tonight, and get up an hour early
tomorrow.
CC Sounds good from us.
SPT Okay. Don't call after 10, we'll call
you.
CC Okay. I've got to check my time schedule
to figure out when is what.
CC Okay. That's an hour from now.
CC Skylab, Houston. We're about 1 minute
from LOS. We'll have you again over Guam, at 21:26 and that's
where we're scheduled for the evening status report and
we'll see what we can do about the other items for this
evening.
SPT Okay.
CC Okay, Skylab. We're going to set up
so you will have the medical conference over Guam.
SPT Good night.
PAO Skylab Control at 21 hours 1 minute and
8 seconds Greenwich mean time. We have lost signal now at
our Madrid Tracking Station after a long pass from Ascension
through Canary and Madrid, and do not expect to acquire
signal again for 24 minutes and 35 seconds. At that time we
will acquire at Guam and during this last pass, we've got
an indication from our flight director, through the spacecraft
communicator, Bob Crippen, that that will be reserved for
a medical conference. Originally, that medical conference
had been scheduled for approximately 1 hour later at
the Vanguard Station at 22:06, originally. And they decided
to move that up, because of a request of the crew, that they
be allowed to go to sleep 1 hour early tonight. That would
make them in bed and asleep by approximately, 5:00 o'clock
central daylight time. Apparently, the ground team is trying
now, to determine whether that will affect any of their
other things. They do have to get a status report in before
they allow them to go to sleep, or they do expect to. And
that's still under consideration. Normally, the medical
conferences have been very short, so it's quite possible we
may get back to the crew for some live air-to-ground at
Guam. And we would be up for that. So we do expect some
change in their sleep schedule tonight, going to bed about
5:00 p.m.. And we expect them to get up 1 hour early tomorrow
morning, which means they'd be up at 1:00 a.m. tomorrow.

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That's an hour earlier than they have been getting up for the past week. During the past - approximately, the past week, since last Saturday, the crew has had a work schedule of 2:00 a.m. in the morning until 6:00 p.m. at night central daylight time. And this was done to prepare the crew and to adjust their sleep cycle for an early morning splashdown on Friday. That work schedule is to undergo adjustment again tomorrow. The crew is expected to go to sleep tomorrow about 2:30 p.m. central daylight time, after about an 11-hour work day. I'm sorry, after about - with this adjusted time, after about a 13-hour work-day. If they go to bed tomorrow at 2:30, as it is expected, they will be required to wake up 5 hours later, at 7:30 p.m. on Thursday evening, central daylight time and then they will begin preparations for their return trip aboard the command module. That splashdown on Friday is scheduled for, approximately, 8:50 in the morning central daylight time and its location is 830 miles southwest of San Diego in the Pacific Ocean. It's roughly west of Baja, California, roughly west of LaPaz. The most recent weather report we have on that landing area from the space flight meteorology group from the national weather service, division of the National Oceanic and Atmospheric Administration, they said this morning that weather conditions are expected to be satisfactory for the landing and recovery of the Skylab astronauts, Friday morning. The landing area located about 830 miles southwest of San Diego California, will have partly cloudy skies, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature near 67 degrees. To repeat that, partly cloudy skies predicted for Friday morning's landing area 830 miles southwest of San Diego, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature near 67 degrees. Temperatures so far on the workshop have changed very little, still remain in the high 70s. The shift of the parasol made yesterday, with a slight correction, that was intended to shift it 15 degrees, Captain Conrad found after the shifting that he had, in fact, shifted too far, and there was some overheating in the sleep compartment walls, and as a result of that they shifted it back. He said later, that he had estimated, he wanted to shift it 15 degrees, had in fact, shifted it about 25 degrees, so he attempted to move it back 10 degrees to get it to the 15-degree shift that he wanted it. That was a 15-degree counterclockwise rotation of the parasol that was done from inside that scientific airlock on the Sun side of the workshop. So, it presently remains at that 15-degree counterclockwise rotated position.

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And the readings that we have so far indicate no improvement so far, but on the other hand they are not certain that there has been any degradation. They'd like to give one more night, so that sometime tomorrow morning, we should have sufficient information for a thermal management specialist here at Johnson Space Center's Mission Control, and also at Marshall Space Flight Center's Huntsville Operations Support Center, that's a supporting unit that is connected by computer and communications systems to Mission Control, here in Houston. And the Huntsville, Alabama Center is looking at the thermal problem, and looking at the data. So far there's been no determination of whether that rotation has had any benefit, or not. It's believed that there's been no adverse affects, but because of a number of complicating factors, including the high, long periods in the Sun, and due to the EVA, yesterday, which requires a reduction in coolant in the workshop, it's very difficult at this time to make any determination of whether that has been a successful rotation or unsuccessful one. So, no doubt we will get some data on that overnight and final decision will be made promptly tomorrow, as to whether or not the parasol should be returned to its original position, or some sort of modification of its position. This is Skylab Control, our next acquisition of signal, about 19-1/2 minutes from now, is for a private medical conference, the daily private medical conference to determine the present state of the crew's health, generally it's been a very, very brief one. Just sufficient to tell Dr. Buchanan, who's been getting the reports, that crew health has been excellent, there have been no problems thus far. And we expect a similar thing may take place today. In fact, Flight Director Milton Windler of the Maroon team indicated a short while ago that he requested the medical people - asked them whether they would require a medical conference at all today, in view of the fact there are very few passes left before the crew has asked to go to sleep. So the crew will be going to sleep, it looks like an hour early at 5:00 p.m. central daylight time. Next pass 18 minutes-1/2 from now at Guam, a private medical conference. We will come up live for air-to-ground in the event that that medical conference is a brief one as it has been in the past days. This is Skylab Control at 7 minutes and 28 seconds after the hour.

END OF TAPE

SL-II MC1287/1

Time: 16:24 CDT, 27:21:24 GMT
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PAO Skylab Control at 21 hours 24 minutes and 3 seconds Greenwich mean time. We are now approaching acquisition of signal at the Guam tracking station. This Guam pass is reserved for a private medical conference conducted with the crew from a private room near the Mission Control Center, inside the Mission Control Center but separate from the operations room. And we do expect that the medical conference will be fairly brief and that we should have communications following that medical conference today. The crew is expected to go to sleep at 5 p.m. central daylight time today. That's 1 hour earlier than was originally planned, and we do expect them to get up an hour early tomorrow morning, which means they'll be up at 1 a.m. central daylight time on Thursday. Tomorrow they're expected to go to sleep again at 2:30 p.m. central daylight time after a short workday, and will wake up 5 hours later to start preparations for that Friday morning splashdown. The retrofire officer here at Mission Control yesterday arrived at final calculations on those maneuvers necessary for Friday morning's return of the first Skylab crew. The command module is scheduled to undock at exactly 3:45 a.m. central daylight time with the space station over the North Pacific about 1200 miles north of Hawaii. Separation, which uses the small reaction control system jets for 23 seconds beginning at 4:40 a.m. central daylight time, follows. The separation burn will slow the command module 5 feet per second or about 3 miles per hour, moving it behind the space station after it has completed its flyaround. That fly-around is expected to be televised during the period between 3:45 and the 4:40 separation. After it has completed the flyaround, the CSM slows down, moves into a lower orbit, and then passes beneath the Skylab cluster because of its shorter travel distance in a lower orbit. The separation takes place over the Indian Ocean some 2,000 miles due south of the Malagasy Republic on the Island of Madagascar. Following separation at 5:05:30 a.m. central daylight time Friday, the main engine, or service propulsion system, will be fired for 10 seconds to slow the spacecraft an additional 264 feet per second, or about 180 miles per hour slower, putting it in an orbit 233.6 nautical miles, or about 269 statute miles at its high point, and 90.7 nautical miles, or 104 statute miles at its low point. This elliptical orbit is necessary to bring the spacecraft close enough for the reentry maneuver. The orbit-shaping maneuver is conducted over the Philippine Sea about 600 miles east of the main Philippine Island of Mindanao. The final burn requiring a 7 second retrofire of the main

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engine, slows the command module another 190 feet per second, or about 130 miles per hour. That will be made at 8:10:43 a.m. - 8:10:43 a.m. central daylight time over the northernmost area of Thailand near the Burma border. The spacecraft will take more than 23 minutes to reach 400,000 feet, and will reach that level at 8:33:47 a.m. central daylight time. And splashdown is set for 8:49:57 a.m. central daylight time, approximately 830 statute miles southwest of San Diego, California. The predicted impact point is 24 degrees 46 minutes north latitude and 127 degrees 4 minutes west longitude. That's 830 miles southwest of San Diego, California; predicted impact at 24 degrees 46 minutes north latitude and 127 degrees 4 minutes west longitude. That is a point - -

CC We got you for about 7-1/2 more minutes. We've got a long message for your deactivation changes sitting in the teleprinter for you, hopefully. They're coming up - -

CDR Thanks a lot. You waited until we were going to go to bed.

CC Roger. No reason for you to go to bed. There's nobody down here can answer any questions about them.

CDR Okay. The CDR ate everything tonight plus two cans of butter cookies. The SPT ate everything and the PLT ate everything plus one can of butter cookies extra and 1.5 DELTA H2O plus - well, wait until I find it - oh, okay, I've got his (garble) hiding behind the bungee that he had his card behind. He didn't eat his corn. And I have a photo log for you.

CC Roger.

CDR The CDR had three optional salts.

CC Okay.

CC We're standing by for your photo.

CDR I have my ice cream in one hand, my spoon in the other, two cans of butter cookies empty between my legs because I was on my way to the trash locker, and I can't read it. Just a minute.

CC Okay.

CDR Okay. Photo log for day 171. 16-millimeters in S183: Echo Alfa 03, 80; and M110 with the Charlie India 15, 00; Charlie India 12. M487: 3 Bravo in Charlie; Charlie India 13, 18, Charlie India 10. M151-S149 PR-3: Charlie India 17, 20, Charlie India 06. Shoot it up, Charlie India 17, nothing, Charlie India 06. 35-millimeter: Charlie India 31 is all gone, Charlie India 33 is now loaded, 01 on the frame count, Charlie India 32 is in the other camera, 27; we took CX06 out of the Hasselblad with approximately 103 exposures on it, and we then loaded Charlie X-ray 23 for the flyaround and so forth and the frame count right now is 004. There was no EREP, of course, and the drawer A configuration was - -

END OF TAPE

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CDR - - is now loaded, 01 on the frame count. Charlie India 32 is in the other camera, 27. We took CX06 out of the Hasselblad with approximately 103 exposures on it, and we have loaded Charlie X-ray 23 for the flyaround and so forth and the frame count right now is 004. There was no EREP, of course, and the drawer A configuration was A-1, is now 02, Charlie India 1, 900 percent, Charlie India 15; 03 is Charlie India 20, 100 percent, Charlie India 17, and those are the two we plan to shoot up on our own. Alfa 3 is 06, Charlie India 13, 18 Charlie India 10, and we'll shoot that up and A-4 is 05, nothing, takeups Charlie India 16 and I suspect tomorrow night it will be 02, 03, 06 with takeups of Charlie India 19, Charlie India 20, Charlie India 13, and Charlie India 16 with no supply. Okay?

CC Okay. I hope our people in the back room managed to get all that. Also, Pete, we have requested on your details, if we could, to get a rundown on the consumables inventory page 5-1 and 5-2 of the stowage list. Is that available, or did you put that on channel B?

CDR I got it. Just a second.

CDR Okay. Urine disposal bag - wait, let me get the PLT down here to - -

PLT It's on channel B.

CDR Oh, I'm sorry. He says he put it all on channel B. Okay?

CC Okay. That'll be fine, if you have it on channel B for us.

CDR I hope the guys on the ground can decipher it, because I can't understand it up here, but the PLT knows all.

CC Very good. (garbled).

CDR Actually, he's sitting here nodding, looking like a Buddah telling me.

CDR We'll go ahead and digest the checklist changes, so we won't bug you until tomorrow.

CC Okay. That'll be fine. The deactivation guys have secured, and they'll be available to you in the morning and can answer any questions you may have on it.

CDR Okay.

CDR We've already got day 28 anyhow, so it doesn't make any difference. We just didn't want to tell them.

CC I suspected that also. You guys just want to loaf tomorrow.

CDR Yes, the PLT thinks that if we can figure out our (garbled), we'll be ready to retro about 1 tomorrow afternoon.

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CC You guys really are anxious.
CDR We're just trying to stay out of the changes.

CC You've been doing pretty fair so far. We're about to go over the hill. Got about 1 minute. If you do want to call us, we'll be over Vanguard at about 22:07, that's 07, and I'll probably be talking to you again after splashdown. Good luck, guys.

CDR Okay. Thank you, Crip. Where are we right now?

CC Oh, just about over Bornio right now.

CDR Oh, yes. There it is, Bornio.

I couldn't recognize what it was. Yes. Thank you.

CC I couldn't either if Rusty hadn't told me.

PLT See you, Crip.

CC Take care.

PLT Thanks to your whole team.

CC Yes, thank you guys. You did an outstanding job.

CC And we've just completed sending the last of all those messages. That should do it for this evening.

CDR Okay. We turned off the teleprinter anyhow. We didn't want to do them.

PAO Skylab Control at 21 hours 36 minutes and 16 seconds Greenwich mean time. We've lost our signal from the Guam tracking station as the spacecraft was travelling over Bornio headed to the southeast. We've gone over the horizon at Guam. We do come very low on the horizon from the Honeysuckle tracking station in Australia, but it's a very low elevation pass, 2.3 degrees above the horizon, barely above the horizon, and because we have had two passes on this revolution, we do not expect to have any acquisition of signal, and in addition to that spacecraft communicator Bob Crippen indicated that that was a goodnight call and they would not be calling them again. The next good opportunity for communication would not be until Vanguard, and Vanguard is about 30 minutes away from now, and because of this 30 minutes away, it would be after the time the crew indicated that they would like to go to sleep. We do expect the crew to be going to sleep about 5 p.m. central daylight time. That's about 23 minutes from now, and we do not expect to hear another call to or from them. We will remain on station for possible calls at either Honeysuckle or Vanguard and we will get a private - a short report out of that private medical conference held at Guam at the beginning of that pass. We have the latest weather report; it's a confirmation of that one given earlier at 21:00 Greenwich mean time about 37 minutes ago. (garbled) Meteorology Group's National

SL-11 MC-1288/3

Time: 16:30 CDT, 27:21:30 GMT
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Weather Service, division of the National Oceanic and Atmospheric Administration, said this afternoon that weather conditions are expected to be satisfactory for the landing and recovery of the Skylab astronauts early Friday morning. The landing area, located about 830 miles southwest of San Diego, California, will have partly cloudy skies, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature near 67 degrees. Predicted impact point of that splashdown, 24 degrees 46 minutes north latitude, 127 degrees 4 minutes west longitude. That is the point at which the main chutes open and as close a prediction as we can give at this time of the impact point for that splashdown of the first manned mission from Skylab. This is Skylab Control. We will remain live for any possible air-to-ground at Honeysuckle, but it is not expected that we'll have another acquisition until Vanguard at approximately 27 minutes. This is Skylab Control at 38 minutes remaining live for any air-to-ground possible at Honeysuckle.

END OF TAPE

SL-II MC-1289/1
Time: 16:39 CDT, 27:21:39 GHT
6/20/73

PAO Skylab Control. We have lost any possibility now of getting signal from our Honeysuckle tracking station. Our next acquisition signal 22 minutes and 50 seconds from now at Vanguard. We do not expect to hear from the crew again tonight. They indicated earlier that they would like to go to bed early and get an early start tomorrow for their deactivation of the orbital workshop, preparatory to their return Friday morning. We have a report from the surgeon, based on that private medical conference held at Guam during the last pass a few minutes ago. The surgeon report signed by Dr. Buchanan is as follows: "The SL-2 Commander, Captain Conrad, reports the crewmen are "all super". We can find no hint of inflight health problems as the crew prepares for an early beginning of their sleep period. They have expressed a wish to turn in early and get a headstart on the deactivation schedule tomorrow." Signed Dr. Buchanan for Dr. Hawkins, Flight Surgeon. That concludes the medical report. We do not expect to hear another message from the crew of the first manned mission of Skylab. They have gone to bed early. Expect to get them to sleep by about 5 p.m. tonight central daylight time and they should not be up again until 1 a.m. tomorrow when they awake to go through a completion of that deactivation procedure on the orbital workshop and associated parts of the Skylab space station. Completing that deactivation before 2:30 when they are set to retire again tomorrow, 2:30 p.m. central daylight time, a short workday. They go to bed at 2:30 and 5 hours later at 7:30 p.m. central daylight time, they are awakened and then we'll begin preparations for undocking and the return to Earth. The scheduled time for splashdown just a little before 8:50 a.m. central daylight time on Friday morning. This is Skylab Control. We do not expect to hear again from the crew and this will be the last report for the evening. The next report at 1 a.m. central daylight time tomorrow morning when the crew awakens again. This is Skylab Control at 45 minutes and 37 seconds after the hour.

END OF TAPE

SL-II MC-1290/1
Time: 01:05 CDT 28:06:05 GMT
6/21/73

PAO Good morning. This is Skylab Control
at 6 hours 6 minutes Greenwich mean time on the 28th day
of the first manned Skylab mission. Skylab is coming up
within range of the Hawaii tracking station now, and CAP
COMM Dr. Bill Thornton will be putting in a wakeup call to
the crew. This will be a busy day. The entire day will
be devoted to deactivation of the Saturn workshop.
CC Skylab, Houston. AOS for 7 minutes.
SPT Good morning, Houston.
CDR Did anybody ever answer you this morning,
Bill?
CDR Hello, Houston.
CC Go ahead, Skylab.
CDR We just wondered if anybody answered
you this morning.
CC That's affirm.
CDR Okay. We were having a big discussion,
and you came in, and when the discussion was over, we said,
"Did we ever answer that?"
CC Pete, they've even got a little song
for you down here this morning.
CDR They do? Well, play it.
PAO This is Skylab Control. That boatswain's
pipe call - -
SPT Skylab.
CC Go, Skylab.
SPT Okay, the medical status report asks
for me to voice record on some OGI data on the PLT. I've
done that twice. And the data no longer exists up here
because we erased our cue cards. I think they ought to
search channel B again.
CC We copy, Joe.
CC And, Joe, we appreciate your patience on
this channel 5 stuff.
SPT Okay.
(Music)
CDR You should have started doing that on
about day 2.
CC For some reason they thought that that might
be appropriate for you, Pete. I don't know who thought it
up.
PAO The title of that number is "The Lonely
Bull." And the boatswain's pipe call that was sent up earlier
is Paul Hand's.
CC And, Skylab; we'll be LOS in 1 minute.
Goldstone at 06:18.
SPT Okay.

SL-II MC-1291/1

Time: 01:16 CDT, 28:06:16 GMT

6/21/73

CC

Skylab, Houston. We're AOS for 6 minutes.

CDR

Roger, Houston.

CC

Skylab, LOS in 1 minute. Bermuda at 29.

PAO

This is Skylab Control at 6 hours 26 minutes Greenwich Mean time. Goldstone has loss of signal. And there'll be about a 2-1/2 minute gap before Bermuda acquires. Skylab now at it's northernmost ground track, 50 degrees north latitude. We'll continue to stand by for Bermuda acquisition.

END OF TAPE

SL-11 MC-1292/1

Time: 01:25 CDT, 28:06:25 GMT

6/21/73

CC Skylab, Houston. AOS for 7 minutes. We'll have a 1 minute keyhole about 2 minutes into this pass.

PLT Roger.

PLT Are you still there, Bill?

CC Say again, Skylab.

CDR Roger, do we just set our clocks ahead exactly 4 hours of clock time? Is that right?

CC (Garble)

CC Pete, if you set your clock ahead 4 hours at this time we would show you day 38, 10:31. That's day 28.

CDR Thank you.

PLT Hello, Houston. You still there?

CC We're still here. Go ahead, Paul.

PLT Okay, I'm just wondering. I don't remember starting up Si49 and deactivation before. Did you do that in the deactivation flight plan, or are y'all going to send up a message to initiate its (garble)?

CC Stand by half, Paul.

PLT Okay.

CC Paul, you don't need a pad for that. That'll be commanded from the ground.

PLT Oh, okay. So leave it just as it is POWER OFF and the whole works, huh?

CC That's affirmative.

PLT (Garble)

CC LOS in 1 minute. Canary at 10:38. And, Paul, we hate to ask you, but did you do the T027, S073 MALF?

CDR Well, he did that, but by the time he got it up Si49 was already out in the airlock and - you know - activated.

CC We copy.

CDR As a matter of fact we had a little discussion about it. We really don't have too much sympathy over that one because the malf has been in that thing for 8 - 9 days and it's been cooled and sealed sitting over on a box. You know - we could have done it anytime.

CC We copy.

PAO This is Skylab Control at 6 hours 37 minutes Greenwich mean time. Skylab is out of range of Bermuda now, but will be coming up on Canary Islands in about a minute. There's also overlapping coverage at Madrid and Ascension Island on this pass. We'll continue to stay up.

END OF TAPE

SL-II MC-1293/1
Time: 01:36 CDT, 28:06:36 GMT
6/21/73

CC Skylab, Houston. AOS 9 minutes.
CDR Roger, Houston.
CC SPT, Houston.
SPT Yes, Houston.
CC The pad that we sent up for the time
change yesterday of 4 hours was based on your getting up
at 7:00 o'clock instead of 6:00 o'clock. Is this adequate
for you? There is actually an hour difference.
SPT Right. Let's keep the 4 hours and we're
just an hour ahead of the timeline. We will - we won't press
on too fast ahead because we don't want to wind up, as the
PLT pointed out, at launch with no water in the wardroom.
CC We copy that.
CC LOS in 1 minute. Honeysuckle 11:23.
PLT Roger.
PAO This is Skylab Control at 6 hours 50 min-
utes Greenwich mean time. We have LOS on Skylab. The next
station to acquire will be Honeysuckle, Australia in about
33 minutes. We'll come back up just prior to acquisition
there. At 6 hours - -

END OF TAPE

SL-II MC-1294/1
Time: 02:30 CDT 28:07:20 GMT
6/21/73

PAO This is Skylab Control at 7 hours 21
minutes Greenwich mean time. We're standing by for acqui-
sition through the Honeysuckle station.

CC Skylab, Houston. AOS 8 minutes.
SPT Roger, Houston. We'd like to stop and
have coffee with you, but the CDR says we're going on a
trip tomorrow, and we have to pack.

CC Press on. Sounds as if the CDR may be
getting a bit travel-proud.

SPT What was that Carolina expression, Bill?
CC Oh, that's an old country expression,
getting ready to go to town, travel-proud.

SPT That's what we're doing.
CC Skylab, for information only, we're
putting the final patches into the secondary computer. No
need to acknowledge.

CC LOS in 1 minute. Hawaii 11:44.
PAO This is Skylab Control at 7 hours 32
minutes Greenwich mean time. Honeysuckle has loss of
signal, and Hawaii will acquire Skylab in about 12 minutes.
At 7 hours 32 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1295/1

Time: 02:41 CDT 26:07 41 GMT

6/21/73

PAO This is Skylab Control at 7 hours 42 minutes Greenwich mean time. Skylab will be within range of the Hawaii station very shortly. We'll stand by for conversation then.

CDR

Houston, CDR.

CC

Go CDR.

CDR

Your evening status report minus Delta

is on B channel.

CC

We copy.

CDR

Houston, CDR.

CC

Go CDR.

CDR

The SPT is the only one that's bringing back his crew log. The CDR and the PLT did not use them. We will stow them here so the people have extra paper if they want them.

CC

We copy that.

CC

LOS in one minute. Goldstone 11:56.

PAO

This is Skylab Control at 7 hours 53 minutes Greenwich mean time. Hawaii has loss of signal. Goldstone will pick up in slightly more than 2 minutes. We'll continue to stand by for acquisition later.

END OF TAPE

SL-II MC-1296/1
Time: 02:54 CDT 28:07:54 GMT
6/21/73

CC
CC
PAO

Skylab, AOS 6 minutes, Goldstone.
Skylab. LOS in 1 minute, Bermuda 12:06.
This is Skylab Control at 8 hours 3
minutes Greenwich mean time. Goldstone has loss of signal.
Skylab is too far north to be acquired by the Texas and
Merritt Island stations, however it will be within range of
the Bermuda tracking station in about 3 minutes. We'll
continue to stand by for acquisition at Bermuda.

END OF TAPE

SL-11 MC-1297/1.
Time: 03:05 CDT, 28:08:05 GMT
6/21/73

CC
SPT
CC

Skylab, Houston. AOS 10 minutes.
Roger, Bill.
Skylab, we're going LOS. Ascension at

12:23.

PAO
This is Skylab Control at 8 hours 17 minutes Greenwich mean time. Bermuda does have loss of signal. Ascension will acquire the spacecraft in about 6 minutes. At 8 hours 17 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1298/1

Time: 03:21 CDT 28:08:21 GMT
6/21/73

PAO This is Skylab Control at 8 hours 21
minutes Greenwich mean time. We're standing by for ac-
quisition through the Ascension Island station.

CC

Skylab, Houston. AOS 10 minutes.

SPT

Roger, Houston.

CC

Skylab, LOS 1 minute. Carnarvon

12:56.

SPT

Okay. See you then.

SPT

And, Bill, would you find out for me if

the biomedical checklist gets used on the next mission.

CC

Joe, a new checklist will be brought

up on 3.

SPT

Okay, thank you.

PAO

This is Skylab Control at 8 hours 34
minutes Greenwich mean time. Skylab is beyond range of
Ascension now. Next station to acquire will be Carnarvon,
Australia in 22 minutes. At 8 hours 34 minutes, this is
Skylab Control.

END OF TAPE

SE-11 MC-1299/1
Time: 03:54 CDT, 28:08:54 GMT
6/21/73

PAO This is Skylab Control at 8 hours 54 minutes Greenwich mean time. Skylab coming up on acquisition now at the Carnarvon, Australia station. Here in the control center, a Change-of-shift will take place very shortly. Flight Director Neil Hutchinson relieving Flight Director Don Puddy. And the CAP COMM Hank Hartsfield relieving Dr. Bill Thornton. We're estimating the Change-of-shift news conference with Flight Director Don Puddy for 4:30 a.m. central daylight time in the JSC news center. 4:30 a.m. central daylight time for the Change-of-shift news conference. We'll stand by for conversation at Carnarvon.

CC Skylab, Houston. AOS for 9 minutes.
CDR Roger, Houston. I got a question for you.
I want to know if - how long I gotta keep venting 02.

CC Stand by a half, Pete.
CDR Houston, CDR.
CC Go, CDR.
CDR We'd also like to test the command module

TV. Do we have permission to do that?
CC Stand by half on that one. And for the oxygen, they want to leave the polychoke hooked up and remove it tomorrow at the checklist time, Pete.

CDR Okay.
CC Pete, we're having some data problems with this pass and they would like for you to do it over the States where they can observe the TV.

CDR Okay. Well, it may not be convenient then but give us a holler.

CDR Hi there, world.
CC We're having a little comm problem. Go ahead, Pete.

CDR (Garble)
CC You're in and out. Say again.
CDR Okay, on panel 5 experiments power Charlie circuit breaker is not mentioned in our book. It's OPEN, and we'd like to know if that's where it's supposed to be.

CC Stand by half, Pete. And be advised we're having some data problems here. We may have drop-outs, both on this station of the comm, and we may have comm problems over Guam.

CDR I can see that on my S-band.
CC Pete, we're supposed to have 4 more minutes here, but in case we lose you, why this is the last time 13 will be up. And everybody has certainly enjoyed it. And - -

CDR We enjoyed it. We appreciate all your help.

CC As for myself, it's been pretty wonderful

SL-II MC-1299/2
Time: 03:54 CDT, 28:08:54 GMT
6/21/73

watching what's going on - the next best thing to being there,
and we'll be looking for you when you get back here, with
sugar cookies in both hands.

CDR
such a nice guy to us

Okay, Bill. Well, I'll tell you, you were
and your team that we went ahead this
morning and took the mug shots for you.

CC
Thank you, Pete.
CDR

That is well beyond the call of duty.
You're welcome.

END OF TAPE



SL-II MC-2300/1

Time: 04:03 CDT 28:09:03 GMT

6/21/73

CC We're 1 minute until LOS. We'll have you at Guam at 12:11 and we're working the circuit breaker.

CDR Okay.

PAO This is Skylab Control at 9 hours 6 minutes Greenwich mean time. Carnarvon has loss of signal. Guam will acquire in about 4 to 4-1/2 minutes. Dr. Bill Thornton describes the "nug shots" that he and Skylab Commander Pate Conrad discussed a moment ago as some interior shots of the workshop that he had asked the crew to get if they had a chance. We'll stay up for Guam acquisition.

CC Skylab, Houston. Through Guam for 7-1/2 minutes.

CDR Hi there. How do you read now, Hank?

CC Okay, reading you loud and clear.

CDR Okay, you were a little wobbly there. We were watching you wobble on our S-band max meter.

CC Roger. In answer to your question, Pete, on the circuit breaker, experiment Charlie on Panel 5, the only thing that was attached to that thing is S015, which, as you recall, was a late casualty.

CDR Yeah, we couldn't find anything in this que - we're doing this quiescent switch configuration and we couldn't find any mention of it, and we didn't know whether it was supposed to be out or in when we came across it. We'll leave it out.

CC Okay, and it looks like you're pretty far ahead of schedule here. What are the other two fellows doing now, or do you know?

CDR We're having a poker game in the command module right now. All three of us.

CC Roger.

CDR And so by the way, we're all suited, and we're ready to go, if you got a pad.

CC You're going to have to hold off, we only got a 4-foot trench down there now.

CDR You got a 4-foot what?

CC Trench.

CDR Okay.

CDR Let me pass one thing along for you, Henry. There is no doubt in my mind that we got things pretty well handled here, and therefore with your permission all the triangled items in my checklist for day 29 which signify that I can bring up on day 28 I intend to do after dinner. Which is, I believe, power up the G&N.

CC Roger. Copy.

CDR Yes, sir. Let me read them to you, Henry.

SL-17 MC-1300/2

Time: 04:03 CDT 28:09:03 GMT
6/21/73

G&N SCS power up, SPS/RCS quiescent termination, E memory dump, CSF caution and warning check, ECS prep, EMS entry check, and I will complete those tonight after dinner.

CC Roger. We copy.

CDR Hey, Henry. Are you there?

CC Roger. You got about 3-1/2 minutes,

Pete.

CC Okay, how about looking at the batt relay bus? We show it reading low here. We show 3.0, and the numbers say 3.4 to something higher.

CC Okay, we'll check it.

CDR Thank you.

END OF TAPE

SL-II MC-1301/1

Time: 04:16 CDT 28:09:16 GMT

6/21/73

CC Pete, our telemetry is showing 26.4 on
that bus. It looks good to us.
CDR Okay, our meter must be reading low.
SPT And the nominal says 30 to 37.
CDR The PLT says he understands and he's
going to explain it to us dummies.
CDR Okay, we understand it now, why we
are reading low.
CC Okay.
CC Skylab, Houston. One minute til LOS,
Goldstone at 35.
CDR Roger.
PAO This is Skylab Control at 9 hours 20
minutes Greenwich mean time. Guam has loss of signal.
Goldstone will acquire in about 15 minutes. The crew is
running well ahead of schedule on deactivation. They appear
to be 2 to 2-1/2 hours ahead of the flight plan schedule.
However they may have skipped over some tasks that they will
return to. We intend to query them in a little more detail
at Goldstone as to precisely where they are, but it's
obvious that they're about 2 hours ahead, or as Pete Conrad
put it, "we're all suited and ready to go, if someone can
send us a pad." Their reference to the 4 foot trench is
not all of the flight controllers required for reentry are
in here at present time, so we're not ready even though
the crew might be, is what the CAP COMM was telling him.
Flight Director Don Puddy has left the Control Center, in
route to the News Center, for his news conference scheduled
for 4:30 a. m. central daylight time. If that conference
is still underway when we have acquisition at Goldstone,
we'll tape and play that tape back at the earliest opportunity.
At 9 hours 22 minutes Greenwich mean time, this is Skylab
Control.

EMD OF TAPE

SL-II MC-1302/1

Time: 04:41 CDT, 28:09:41 GMT
6/21/73

PAO This is Skylab Control at 9 hours 41 minutes Greenwich mean time and we're back live on air to ground.
SPT Hank, you still there.
CC Roger. Go ahead.
CC Okay. We just had a handover. Did you transmit right then?

SPT Oh, okay. You read all right now?

CC Roger.

SPT Hey, if you'll pass - I know something that always came up in the timelining people and if you'll pass to Al Bean and - I start at the forward end of the MDA, went at a rate of travel that's typical of moving with a fairly massive objective such as a drawer full of S190 magazines and from the (garble) to the MDA down to the big hole in the workshop grid took me right at 1 minute. I turned around and came back at - by myself in what has come to be I think a moderately fast but also typical rate of movement of a unhindered man and the same distance in about 20 seconds.

CC Okay. Understand from forward MDA to the experiment compartment? Is that where you went to?

SPT Well, the forward - the grid of the experiment compartment - the big hexagonal hole in the grid floor.

CC Okay. That took you about a minute with a load; coming back, about 20 seconds.

SPT Yes, sir.

CDR Has anybody seen my rubber ducky?

CDR No, I found it.

CDR Still there, Houston?

CC That - That's affirmative.

CDR Don't let that out about the SPT will you? We've been trying to keep that quiet for the last 28 days.

CC He really took one with him, huh?

CDR You bet you.

CC Skylab, Houston. We're about 1 minute to LOS. Ascension at 03.

(Music)

CDR You know, it's just like the day before Christmas up here, Hank. We're having our farewell party with all the office staff and everything before we leave.

CC It sounds like a ball. You know, you've got to realize it's only 5 in the morning down here.

CDR (Laughter) Well, we're getting ready to eat lunch here in a minute.

PAO This is Skylab Control at 9 hours 54 minutes Greenwich mean time. Bermuda has loss of signal. Ascension

SL-II MC-1302/2
Time: 04:41 CDT, 28:09:41 GMT
6/21/73

PAO will acquire in about 8-1/2 minutes.
The crew indeed is two hours - slightly over two hours ahead
on the time line - -

END OF TAPE

SL-II MC-1303/1
Time: 04:54 CDT, 28:09:54 GMT
6/21/73

PAO - the crew indeed is 2 hours - slightly over 2 hours ahead on the timeline. They are getting ready to have lunch. The command module television was checked out over the Goldstone station. That transmission was recorded at Goldstone and will be sent back here later. We don't have a time yet for the return of that television. We have about 3 minutes worth of tape we accumulated during the Change-of-shift briefing. We'll play that for you now.

CC We're stateside for about 20 minutes.
CDR Okay, we'd like to check out the CSM TV.
CC Okay, go ahead.
CDR Okay. We've got it at CSM TV DOORS and on S-BAND and TV and nothing's running. Do we go to COMMAND RESET?

CDR You guys did it. Okay, thanks.
CDR Okay. Henry, are you going to get a picture down there?

CC We'll be recording it at Goldstone, Pete.
CDR Okay. Well let us know if it's - I cleaned this lens up. We had a lot of complaint about that other lens and I found it had internal dirt in it which I could see. And I have replaced the lens with the other lens and want to know if we got a good lens.

CC Okay.
CC CDR, Houston. Since you were in the class at 6:10, may we assume that you've accomplished everything prior to that?

CDR You can bet your sweet bippy baby.
CC You guys are really moving ahead.
CDR We got up early this morning.
CC Okay. We're getting the video signal at Goldstone now and we're recording it.

CDR We're redoing re-entry procedures and I assume from the entry-minus-6-day check pads that I have that I can go through there and change all my gimbal trims and everything to what you had on those pads because they ought to be fairly close. An example in the book was pitch was plus 1.44 and plus 0.33, and the pad I had the other day was plus 0.057 and minus 0.11 and I assume those are correct.

CC Okay, those trims are probably not good, Pete. We'll be uplinking you some new headings tonight on the preliminary pads.

CDR Yeah, but they can't be too far off, though.
CDR Six days, all we've done is throw away a little oxygen - couple other (Garble)

CC Okay, the stowage is not reflected in those trims.

SL-II MC-1303/2

Time: 04:54 CDT, 28:09:54 GMT
6/21/73

CDR Oh, the minus 6 day summary stuff reads -
just like there are minus 6 days, huh?
CC That's affirmative.
CDR Oh, sneaky.
CDR I knew I couldn't get ahead - that there
was no way.
CDR Well, we're done with the TV, and if you
guys want to command it OFF, go ahead.
CC Okay, we'll turn the downlink OFF and
you can get the camera.
CDR Okay.
PLT Hank, I gotta go to COMMAND RESET to turn
that OFF to enable that switch. Do they really want me to
do that?
CC Stand by 1.
CC COMMAND RESET's okay, Paul.
PAO This is Skylab Control at 9 hours 58 min-
utes. That's the end of the tape recorded during Change-of-
shift briefing. The rubber-ducky routine just before Bermuda
LOS was courtesy of Science Pilot, Dr. Joe Kerwin. We're
3 minutes away from acquisition at Ascension. We'll continue
to stay up live until we acquire at Ascension.

END OF TAPE

SL-II MC-1304/1
Time: 05:00 CDT 28:10:00 GMT
6/21/73

CC Skylab, Houston. Through Ascension
5 minutes.
CDR Gosh, Hank, you got a EREP slider update
for us?
CC Okay, see if I can get you one. Are
you in the wardroom now?
CDR Yes, sir.
CC I wonder if we could get one of you to
slip over to panel 617 there and get experiment 1 and 2
recorders to Charlie on the rotary switch.
CDR Okay.
CDR You want them ON or just on Charlie?
CC We just want the two rotary switches on
Charlie so we can look at some data from the - from the
experiment there in the SAL.
CDR Okay.
CDR When do you activate 149? While we're
here, or after we leave?
CC Okay. We're going to do a checkout on
it today, and then we'll turn it on just before you leave to-
morrow.
CDR Are you actually going to open the
doors?
CC That's affirmative.
CDR Let me know cause I can watch it. I
can see it from the window.
CC Okay.
CDR We've got some time, you know. If you
got a problem with that thing, we can probably pull it in
for you and troubleshoot it, if you want to check it out
real early.
CC Okay, we'll let you know what happens.
CC CDR, Houston. Carlos says that the
previous team has already checked out the doors. What
we're going to do is put the power on it and see if we
got the same problem that we had with T027. What we are
going to do is look at the shaft and trunnion.
CDR Okay. You gonna drive it up and down?
CC Well, it shouldn't drive, we hope.
We want to - if we got that same sticking relay kind of
thing, it might drive and, that's what we're afraid of.
We want to take a look at it and see what it does.
CDR (garble)
CC Okay. We're gonna probably do that at
Carnarvon then, Pete. We're about 1 minute to LOS and
Carnarvon will be coming up at 34.
(music)

SL-11 MC-1304/2
Time: 05:00 CDT 28:10:00 GMT
6/21/73

CC Pete, I can hear you keying, but I
can't read you.

CDR I said, "Are we going to be in the
dark in Carnarvon, and also what's our Beta angle today?"

CC Okay. Our Beta's up to 69 degrees, and
we're only down to about a couple of minutes of daylight,
in fact, on about 3 revs - a couple of minutes of night -
about 3 revs from now, we'll be all daylight.

CDR (garble) crazy.

CC You can probably tell the berth's get-
ting a little warmer too.

CDR Oh, that's gonna go with us (garble).

PAO This is Skylab Control at 10 hours 9
minutes Greenwich mean time. The television from the
Command service module camera checkout is coming in now from
the Goldstone station. Skylab has had loss of signal through
Ascension. Next station to acquire is Carnarvon, Australia
in 24 minutes. The crew is having lunch, running about 2
hours or a little over 2 hours ahead of the Flight Plan.
The 149 that was being discussed by CAP COMM Hank Hartsfield
and Skylab Commander Pete Conrad is the S149 particle col-
lection experiment. That's the experiment to determine the
mass distribution, composition, and morphology of micromet-
eorites in near Earth space. That experiment is deployed through
the anti solar scientific airlock. It will be left there
through the unmanned portion of the mission. Can be operated
from the ground. We'll come back up just prior to Carnarvon.
At 10 hours 10 minutes, this is Skylab Control.

END OF TAPE

SL-IX MC-1305/1

Time: 05:31 CDT, 28:10:31 GMT
6/21/73

PAO This is Skylab Control at 10 hours
31 minutes Greenwich mean time. Skylab coming up within
range of the Carnarvon station, and we'll stand by.
CC Skylab, Houston, through Carnarvon 8-1/2
minutes.

CC Skylab Houston, how do you read?
PLT You're loud and clear, Houston.
CC Roger.
CDR Go ahead, Houston. Do you want to run this
140 on.

CC Okay, we'll be ready for that in just
a minute, Pete. I'd like to chat with you a second about
your plan for the early CSM checks.

CDR Go ahead.

CC Okay, the way we see it is fine to do the
SPS RCS quiescent termination. In our opinion the G&N and
the STS power up doesn't really gain us a lot. For one thing
we don't have our rest mat ready in time, and we've got
to get the clock synced up for you and get the time squared
away. The alignment sequence tomorrow would be changed
to do a P52 option 3 first, and then a P52 option 1 and
so on - the time line. The caution and warnings checks,
we wouldn't want to do today because of the SPS pressurization
which we've got scheduled to do first thing tomorrow morning.
And the ECS prep wouldn't be desirable because of the sec-
ondary coolant loop and cryo changes. And if you do the EMS
check, we still want you to do it again tomorrow. And it's
kind of a bad picture all the way around. The crews that
are supporting this - we've got to turn them right around to sup-
port the entry tomorrow, and it really puts us in a bind. Plus
we got a site coverage problem this afternoon. We' get
into that - Vanguard, Hawaii, back and forth deal with the long
LOSSs.

CDR What the hell did anybody ever put them
in the book and do it early for anyhow then?

CC Well, you see the reason we're in this
bind, Pete, is that we're in sort of a non nominal situation. We
had the - it would have worked normally. However, we're in
a situation such that we've got some cryo and coolant loop
problems and the STS pressurization, which are not nominal.
And they affect some of the checks that you want to do.

CDR Could be a typical jet flight take off
and invert with EV, but when you get to the end, look out.
Okay. We'll sit up here and twiddle our thumbs and wait
for you.

CDR I've got lots of music to keep me happy.

SL-II MC-1305/2

Time: 05:31 CDT, 28:10:31 GMT

6/21/73

PLT How about give him something to do, Houston.
Will you please.

CC I've got one question. Can you stomp
your foot up there in zero g as easy as you can in 1 g?

CDR You bet your sweet bippy, and you can
also go Ah haa.

PLT You can only stomp it once.
CC Roger.

CDR (garble)
CDR Say Hank, would you do me a favor?

CC Roger, go ahead.
CDR Would you ask old Roddy (garble)

to pass to Bill Bailey my thanks and ask him to pass on to
G. D. Pruitt, Loretta Lynn, and Danny Davis. Tom T. Hall,
Conway Twitty, Nat Stuckey, and Bill Anderson my thanks
for all the personal tapes and nice little messages they
sent because it's - you laugh at my country music, but I really
enjoyed it for the 28 days. And I appreciate the extra
effort those people did on my behalf.

CC Roger. Will do.
CDR Thank you, sir.

END OF TAPE

SL-II MC1306/1

Time: 05:41 CDT, 29:10:41 GMT
6/21/73

CC CDR, Houston. Corollary has all ready turned the power on to S149 and checked it out. We didn't see any movement in the shaft and trunnion, so I guess all the indications are normal. He'd rather not open the doors at this time, so it appears to be in normal condition.

CDR Okay.

CC Skylab, Houston. One minute to LOS. Guam will be coming up at 47.

PLT Roger. Houston, may we power a couple of fecal dryers today?

CC That's affirmative.

CDR Okay.

PAO This is Skylab Control, at 10 hours 44 minutes Greenwich mean time. Carnarvon's had loss of signal. Guam will acquire in just under 3 minutes, we'll continue to stand by. During this pass over Carnarvon, Pete Conrad passed down his appreciation to a number of country and western music stars who have provided the music for him during the Skylab mission. Also, from what he said they apparently had some personal messages to him on the tapes that he had with him.

END OF TAPE

SL-II MC-1307/1
Time: 05:46 CDT, 28:10:46 GMT
6/21/73

CC Skylab, Houston; through Guam for
9 minutes.
SC Roger.
CC Skylab, Houston. We're about 1 minute
to LOS; Goldstone at 1-2. And we just sent you a message
up, should be in the teleprinter now, and you can accomplish,
as convenient.
SC Okay.
PAO This is Skylab Control at 10 hours
57 minutes Greenwich mean time. Skylab out of range now,
at Guam. Goldstone will acquire the spacecraft in about
14 minutes. The crew well ahead of their deactivation
timeline. At 10 hours 58 minutes Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-11 MC1308/1

Time: 06:10 CDT, 28:11:10 GMT

6/21/73

PAO This is Skylab Control at 11 hours
10 minutes Greenwich mean time. We're standing by for
acquisition through Goldstone.

CC Skylab, Houston. Stateside for about
16 minutes and we'll be dumping the recorder over Mila
at about 20.

PLT Okay.

CC Skylab, Houston. I wonder if it would
be convenient to give us an update on where you are in the
checklist here in the next couple of minutes?

PLT Well, we're all in a hold awaiting lunch.

END OF TAPE

SL-II MC-1309/1
Time: 6:24 CDT, 28:11:24 GMT
6/21/73

CDR And we don't want to close down waste management and wardroom until on time. (garble) hold them until lunch.

CC Roger.
CC Have you picked up some of the items that are scheduled after lunch?

CDR No, not really. You've got me convinced that we're wasting our time getting ahead.

CC Well, we didn't really mean to do that. We were - thought you were shooting to get to bed early tonight to get a few more winks.

CDR We'll make that, Hank.
PLT Hey, Henry, the PLT is holding for lunch except I have all ready replaced the solids trap and the charcoal canisters.

CC Roger, copy.
PLT And I'm not planning on starting to shut down the water system until after the evening meal.

CC Roger, understand.
PLT Henry, have you got a minute.
CC Roger, goahead.

PLT If you will look at the deactivation checklist, and look at the flight plan on page Charlie, please.

CC Okay.
PLT Okay, in my column is a time-critical function to turn on the wardroom dump heater, but I can't find out why I'm turning it on.

CC Okay, that's for - in preparation for the wardroom water system deactivation, which comes after dinner. And we're about 30 seconds from LOS. We'll be coming up on - we'll be coming up on Vanguard at 38.

PLT Well, that's what I figured, but I didn't see any reason to turn it on that early, so I moved it on down to an appropriate time I had them dumping any water.

CC Okay, that's all right.
PAO This is Skylab Control at 11 hours 30 minutes Greenwich mean time. Skylab out of range of the Merritt Island, Florida, station. The tracking ship Vanguard will acquire Skylab in about 8 minutes. At 11 hours 30 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1310/1
Time: 06:36 CDT, 28:11:36 GMT
8/21/73

PAO This is Skylab Control at 11 hours
37 minutes Greenwich mean time. Skylab coming up on the
Vanguard Tracking Ship, now. We'll stand by.
CC Skylab, Houston; through Vanguard
6-1/2 minutes.
SC Roger. Houston, what's GMT at splashdown
tomorrow?
CC Rog. I think it's 13:56 but I'll check
it out.
SC Okay.
CC Okay. Splash is at 13:50.
SC Sounds like we missed 28 days by 10 minutes,
huh?
CC That's about it.
CC Maybe you could hold at 10 000 on the
way down.
SC Okay.
CC We just got some interesting data in here,
now. The recovery ship's crew have been practicing out there.
And they simulated a splash 4-1/2 miles from the carrier.
And the time from splash to hatch opening on the deck was
33 minutes.
SC Yay!
SC Fantastic. And we hope beat 4-1/2 miles.
CDR Hey, Hank, CDR.
CC Go ahead.
CDR Roger. Let me pass you (garble) status
report: Delta for the CDR.
CC Go ahead.
CDR 2/25/3300/05/0300. That's the last one.
CC Roger. Copy.
CC Skylab, if it's convenient for one of you,
we'd sure love to get the star tracker up.
CDR Well, it's not convenient, but we've
ordered Joe to go do it.
CC Roger. (Chuckle)
CC And while you're up there, Joe, would
you get us a readout on the S052 frame counter?
SPT S052 FRAMES REMAINING at 7871.
CC Roger. Copy. 7-8-7-1.
CC And, Skylab, we're about 1 minute from
LOS. Goldstone will be coming up in a little over an hour
at 49.
SC Roger. And you've got the star.
CC All right, thank you.

SL-II MC-1310/2

Time: 06:36 CDT, 28:11:36 GMT
6/21/73

PAO This is Skylab Control at 11 hours
46 minutes Greenwich mean time. Vanguard has loss of signal
on Skylab. It'll be a long LOS here, now. No more stations
until we get to Goldstone on this ground track. That's
1 hour and 2 minutes from now. At 11 hours 46 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC1311/1

Time: 07:46 CDT, 28:12:46 GMT

6/21/73

PAO This is Skylab Control at 12 hours
46 minutes Greenwich mean time. Skylab coming up within
range of the Goldstone, California station. We'll stand
by.

CC Skylab, Houston. Stateside for 12-1/2
minutes.

CDR Roger.

CC And Skylab, the first time it's convenient
we need to get the MCC inhibit. In fact, I guess we need it
pretty quick because we're trying to get a load up.

CDR Okay, Houston. We got some bad news for
you. We were jettisoning the charcoal canisters through
the airlock for the procedures and it has hung itself in
the trash airlock and in going back and looking at another
one I have the sneaking suspicion that the lip on the charcoal
canister, the little flat I-beam type thing that's welded on the
side of it has slipped over the lip below the track guards, and,
man it's really hung in there. We're working the problem
but I doubt - it'll be pure luck if we bounce it off that
lip and get it out of there.

CC Roger. We copy.

CDR I guess I should have looked at that thing
closer but I think it was poor headwork for us to ever assume
that we should put that thing through the airlock.

CC CDR, Houston. Wonder if you could give
us a exact description of the configuration. Was it - was
the canister in a bag, trash bag? Or just give us a description
of what happened, how'd you put it in. Story here wants to go
over to the 1G trainer and see if we can come up with something
that might help you out.

CDR Okay, it was the canister charcoal canister
for - from mol sieve in a bag with four EV gloves. The two gloves
were on either side with the fingers down so that the red
pring was up above the canister and two more lay crossways
on top of the canister.

CC Okay, understand you had four EV gloves and
- was - two of them with their fingers down beside the canister
the ring over the top, and then the other two gloves laying on
top of the canister all in a bag. Is that correct?

CDR That's right. All in a disposal bag.

CC Disposal bag, roger.

CDR And it went just about halfway I'd estimate.
You still there, Hank?

CC Roger.

CDR Okay, when you lift up the eject lever, the
handle that the - handle you pull on is about 3 inches above

SL-II MC1311/2
Time: 07:46 CDT, 28:12:46 GMT
6/21/73

the lid.

CC

Roger. We copy.

CDR And on the ejection stroke it moved very
smoothly until it just all of a sudden abruptly stopped.

END OF TAPE

SL-II MC-1312/1
Time: 07:56 CDT, 28:12:56 GMT
6/21/73

CC Skylab, Houston. Have you done anything
in waste mal number 3 yet?

PLT Negative.

CC Okay, that seems to be the one that is
appropriate. In the meantime Story is on his way over to
the trainer to try to duplicate what you did, and see what
he can find out.

CDR Okay. Well, there is an iron lip, - steel
lip welded on the side of that thing, a break. And I've
got the feeling that when it got to the very bottom of the
trash airlock inner skirt, it popped through and it's resting on
the ledge that the outer seal goes on.

CC Roger.

CC Skylab, we're 1 minute from LOS. Vanguard
will be coming up at 15 with a recorder dump.

PAO This is Skylab Control at 13 hours 4 min-
utes Greenwich mean time. Skylab has completed this pass
over the United States and is now out of range of the Texas
tracking station. The Vanguard tracking ship will acquire
in about 10 minutes. Another problem has cropped up here.
The charcoal canister, from the workshop's filtering system
was changed out during the deactivation sequence. The canister
appears to be - not only appears to be, it is hung up in the
trash airlock outer hatch. The crew is working trying to
free it. And here on the ground, back up Science Pilot, Story
Musgrave, who was in the control center here on the Capcom
console when the word came down on this problem is preparing
to go over to the trainer, the workshop trainer, in the sim-
ulated area here at the Johnson Space Center duplicate the
problem and see if he can work out a system here on the ground
to aid the crew. In the meantime, the crew will continue
trying to free the canister which is in a regular disposal
bag along with 4 EVA gloves. We'll come back up just prior
to Vanguard acquisition. At 13 hours 6 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

CREW FIXED THE PROBLEMS & SENDS RECOMMENDATION FOR
THE NEXT CREW HOW TO DO IT.

SL-II MC-1313/1
Time: 08:12 CDT, 28:13:12 GMT
6/21/73

PAO This is Skylab Control at 13 hours
12 minutes Greenwich mean time. Skylab coming up on acquisition
at the Vanguard. We'll perhaps get some more information on
the airlock problem, trash airlock problem. One of the
charcoal canisters is hung up in the outer hatch of the
trash airlock, blocking the airlock. The implications of
this problem are being studied here on the ground. And as
soon as we have information concerning what the implications
might be, we'll pass them on. We'll stand by for acquisition.

CC Skylab, Houston; through Vanguard
7-1/2 minutes.

SC Roger, Houston. On that waste valve 3.
CC Roger. I don't think was much help, was

it?
SC Well, we went from block 1 to block 2,
to block 6.

CC Roger. That's the way we looked at it
after we got it out. That didn't seem to be much help.

SC Yeah. That's right. So having wound up
there and ah - we started working on it a little more.
And wherever it jammed, it must have been forcibly in the
lip on the side, and the (garble) And by judicious
application of muscle, we did manage to get it up and free,
so the trash airlock is operative one more time.

CC Boy, is that ever good news. You can
hear the sighs of relief down here.

SC They were nothing compared to the sighs
here, man. I'll tell you what we did on the next one, and
what we recommend for the other troops isthose charcoal
canisters, there's really no need to put them in a bag, we
see. We just took the canister, laid a - smoothed in all the
sharp protrusions of great length, and gently injected
into the trash airlock by itself with its great big bag.
There's no bag.

CC Roger. That sounded like a good plan.
CC There's nothing else with it, either.
That's the best plan, to just put it through by itself.

SC Hey, Houston.

CC Go ahead.

SC In the process of getting this thing
lose, since there are rather angular corners all over these canisters,
we did put a few nicks and gouges both on the bottom of
the ejecter plate, that's the elephant part there. And
also in the sides - in the wall. And there just - you know,
it's kind of ragged. I don't think it's going to present
any problem operationally. But if the next group wanted to
dress it up a little bit, they would have to bring some
coarse emery cloth or a file of the right shape or something
up to - better just dress up some of that gouged metal.

SL-II MC-1313/2

Time: 08:12 CDT, 28:13:12 GMT
6/21/73

CC Roger. We copy.
CDR - - photographs of it, Hank, and bring
it back, and you can make up your mind.
CC Okay. That's a good show.
CC Skylab, Houston. We're having the same
problem with the star tracker today we had yesterday. We can't
keep it locked up. So at your convenience, we'd just like to
go ahead and close the shutter on it, and then we'll bring
her up again tonight, when we've got more station coverage.
CDR What are you going to do when you don't
have us to run that thing for you?
CC I guess we'll just turn it off.
CDR Why don't we do that now?
CC What we're really after, Pete, is
trying to get a good hack on the Z-gyros before you leave.
That's the reason we've been working with it.
SC Okay. It's closed.
CC Thank you, sir.
SC I was just pulling your leg.
SC (Garble) - -

END OF TAPE

SL-II MC-1314/1
Time: 08:20 CDT, 28:13:20 GMT
6/21/73

CDR Command module is rapidly beginning to
look like what it looked like when we left, crowded.
CC Roger. We copy. EGIL sees the waste
tank pressure coming up. Are you doing a water purge or dump
now?

CDR I think they were doing the squeezer
bag.

CC Roger, copy.
PLT That's complete now.
CC Skylab, Houston. We're about 40 seconds
from LOS. Hawaii at 23.

PLT See you.
PAO This is Skylab Control at 13 hours 23 min-
utes Greenwich mean time. Vanguard has loss of signal. We have
another long LOS. Skylab will contact no ground stations
until it reaches Hawaii 1 hour from now. As you heard
during this pass, the crew which stated, "We can fix anything,"
has lived up to its proclamation again. They succeeded in
freeing the trash airlock hatch while Skylab was between
the Texas station and Vanguard. That airlock is now free,
and can continue to be used. The crew recommended that in
future disposals of the charcoal canisters that they be dis-
posed of without being bagged. We'll come back up again
prior to recovery, prior to acquisition at Hawaii. At
13 hours 24 minutes Greenwich mean time, this is Skylab
Control.

END OF TAPE

REPLAY OF I MIB A/G LOST BECAUSE OF CONSOLE
MISCONFIGURATION.

SL-II MC1315/1

Time: 09:21 CDT, 28:14:21 GMT
6/21/73

PAO This is Skylab Control at 14 hours
21 minutes Greenwich mean time. Skylab coming up on Hawaii
now. We'll just barely slice through the acquisition ring
of the Hawaii station. Low elevation, and it'll be a short
pass about 3 minutes. We'll stand by.

CC Skylab, Houston. I guess I don't have
to tell you, but I'd take a close look at those urine separators
when you put those in the trash airlock.

SC (garble)

PAO This is Skylab Control, 14 hours
29 minutes Greenwich mean time. Hawaii has had loss of
signal. The Vanguard will not acquire for 21 minutes. Due
to a configuration problem on the console, that Hawaii pass
did not get on the PAO release line. It was taped however,
just about 1 minute's worth of conversation. We'll play
that tape for you now.

CC Skylab, Houston. Through Hawaii for 2 minutes.

CDR Two minutes? It's hardly worth it.

CC Roger. We got a low pass here. We uplinked
a catchall message to you at Vanguard, should be in your
teleprinter now.

CDR Is that the one with the entry changes
that - about the activation change?

CC Roger. We hope that's the last of them;
there's a couple of things we omitted last night.

CDR Okay, I got them. They're already
programed.

CC And Skylab, for info we had another
RM failure in the Y-axis. We're reconfiguring 1 and 3.

CC Skylab, Houston. We're about 1 minute
from LOS. We'll be coming up on Vanguard at 51.

PAO This is Skylab Control. That's the
end of the tape of the Hawaii pass. We'll come back up
just prior to Vanguard acquisition. At 14 hours 31 minutes,
this is Skylab Control.

END OF TAPE

SL-II MC-1316/1
Time: 09:48 CDT, 28:14:48 GMT
6/21/73

PAO This is Skylab Control at 14 hours
48 minutes Greenwich mean time. Skylab is just about
within range of the tracking ship Vanguard. We'll stand
by for conversation through that station.

CC Skylab, Houston. Through Vanguard for
9-1/2 minutes.

CC Skylab, Houston. I guess we would
recommend that you hold up this evening on dumping those
urine separators through the airlock until we look at it
a little more closely. Story is on his way to the trainer
now, he's going to be looking at how he might get that thing
through safely, and also he is going to try to duplicate
the problem you had with the charcoal canister.

PLT Roger Houston.

CC Skylab, Houston. I'd like to make a
general comment on the messages we sent up last night con-
cerning circuit breaker configurations. We uplinked you
some asterisks, and some of those might not be correct. I
guess the main (garble) to the message shou'd be that the circuit
breaker positions as called for in the diagram and with the changes
that we uplinked and what you want to do regardless of where
the asterisks are. We have (garble) around one place where we
know we are in error. We called for the four heater switches
on panel 200 to have asterisks, and I guess at this time we
noted only one of those is open, so there should be only
one asterisk. And that's on the OWS (garble) heater 1 and 5.

PLT Okay. I'm going to take a checklist
and go up there right now and look at it and make sure I
understand it.

SPT

Still there, Houston?

END OF TAPE

SL-II MC-1317/1

Time: 09:57, 12:14:57 GMT

6/21/73

SC You still there, Houston?
CC That's affirmative.
SC Okay. My only question on these, Hank,
then, is on 202. If you'll turn (garble) to SAL control
breakers.
CC Roger.
PLT Okay. It's my understanding that when
we leave, you want SAL control breaker 1 OPEN and 2 CLOSED.
Is that right?
CC That's right, Paul. That's so we can
control the 149. It should be in that configuration, now.
CC Well it's not. They're both closed
right now.
CC Okay. I stand corrected. You will
be opening number 1. There's an asterisk that's been added
there. You will be opening that one.
SC The only thing I didn't figure out how
to do was, on SAL control 2, was (static) and delete the
asterisk.
CC Takes a good eraser.
SC Yeah.
CC The main thing, I guess, Paul, is that
in all cases, I think, that the bars indicate the correct posi-
tion with the changes that we uplink to you.
SC I understand them all now. Thank you.
CC And if it's possible, Skylab, we'd like
to get an update from each of you as to where you are on
the checklist, now.
PLT Okay. The PLT is holding on the Flight
Plan at the bottom of page Charlie, at urine collection.
CC Roger. Copy.
CDR The CDR is at about 19:00 on the time-
line. I've done miscellaneous acts, (garble), fecal bundle
transfer, and I have just thrown into the trashbag my urine
separator. And I'm cleaning all that stuff out, right now.
CC Roger. Copy.
CDR And the SPT is in the same place.
CC Roger. We copy. And we're about 1 minute
to LOS. Vanguard will be coming up at - or Hawaii will
be coming up at 59. And shortly, here, in about 35 minutes,
at 36:53, you'll have your last sunset for this flight.
SC 36:53, last sunset. Roger.
PAD This is Skylab Control at 15 hours
1 minute Greenwich mean time. Skylab out of range of
Vanguard, now. Next station will be Hawaii in 57 minutes.
Crew still well ahead of the timeline in the - e - deactivation
sequence. At 15 hours 2 minutes Greenwich mean time, this
is Skylab Control.

END OF TAPE

URINE SEPARATOR WILL NOT FIT THROUGH TRASH AIRLOCK

SL-II MC1318/1

Time: 10:57 CDT, 28:15:57 GMT
6/21/73

PAO Skylab Control at 15 hours 57 minutes and 4 seconds Greenwich mean time. The warbler has now sounded in Mission Control, indicating that we are approaching an acquisition of signal at the Hawaiian tracking station. The spacecraft is now to the northwest of Hawaii, just about to cross the horizon above Hawaii. We expect to get some additional information on how far the crew is along and completing that deactivation. Earlier the commander indicated that he was running several hours in advance of the time line and might very well complete and get to bed a bit early today. This is Skylab Control, we'll remain live for air-to-ground from Hawaii.

CC Skylab, Houston; to Hawaii, 9 minutes.
CDR Roger, Houston. Be advised all three of us are up to dinner time. Actually, we're running a little ahead of that. We - we're changing out the - closing out the lab urine drawer right now.

CC Roger. Copy, and just to fill you in, Story went over and configured the disposal bag with the configuration you had and it jammed everytime he tried it. And he also is taking a good look at the urine separators and he definitely does not recommend that you try to put those separators down through the trash airlock. We're looking at several things. He's looking to how he might configure them to get them through there. We're also looking at a possibility of, at least for now, stowing the urine separators in the T027 sampler (garble) container.

CDR Okay, you mean the small one and pull a vacuum on it?

CC Roger.
CDR Okay, be advised that it won't hold the vacuum. I pulled the vacuum on it when I stowed the box the other day and when I went back to open it up and put the dump port on it, why it didn't have any vacuum at all. Either that or the plus-2 airlock vacuum hose is not working. Now, that could be too. I haven't tried to verify that, but I can if you want me to.

CC Hold up on it for right now, Pete.
we'll come up with a plan somehow.

CC Skylab, Houston. One minute to LOS. Vanguard at 30 and there'll be a data recorder dump there.

CDR Okay.

PAO This is Skylab Control at 16 hours 9 minutes Greenwich mean time. We have lost signal at the Hawaiian Island tracking station and do not expect to acquire for another 20 minutes and 26 seconds when we will

SL-11 MC1318/2

Time: 10:57 CDT, 28:15:57 GMT

6/21/73

acquire at Vanguard tracking ship. Appears that the crew is still operating ahead of their original time line. Originally it called for them to go to bed about 2:30 p.m. Central daylight time today. It now appears that they may be an hour or so ahead of that. That would allow them a longer sleep period than they'd been scheduled for. Originally they were scheduled for a 5-hour sleep period running up until 7:30 p.m. tonight. It now appears that they may be able to get to bed earlier than that. During this last pass they were advised by the ground of the problem that occurred here in the Johnson Space Center training equipment. Story Musgrave, one of the backup crew, was working with the urine separator trying to dispose of it and discovered that it would not fit through the trash airlock. And they are now working on a solution as to what can be done with that piece of equipment. Suggestion now is that they may use the T027 box, that's the box that's used in the ATM contamination experiment. They're now evaluating that and seeing whether that can be done. Appears that it would fit in there, and that might be the place it will be disposed of. There will be a briefing this afternoon at about 3 p.m. by three representatives of industry talking about immediate uses to which the Skylab electronics equipment has - is being put. These are commercial applications already developed of Skylab's electronics. The three specific areas to be discussed are: television, television camera equipment, the Ampex tape recorder, and SCI Incorporated pipeline control system used in energy production. So, representatives from Westinghouse on television, Ampex on the tape recorder, and SCI on pipeline control systems will be available at 3 p.m. Central daylight time for a briefing in the small briefing room at Johnson Space Center's Building 1. That'll be carried over the release lines following the change of shift briefing. We don't have a definite time yet for change of shift. Original schedule called for a 1 o'clock break. It now appears Neil Hutchinson's team of flight controllers will not be off until something closer to 2, partly because of this difficulty with disposing of the urine separator and because of some paperwork that they have to clear up here. So we're expecting that change of shift may take place in the neighborhood of 2 o'clock. We'll give you more exact time perhaps an hour or so from now. Next acquisition of signal, a little less than 18 minutes from now at Vanguard tracking ship, and we will come up live again then. This is Skylab Control at 11 minutes and 47 seconds after the hour.

END OF TAPE

CONSTRUCTION

SL-II MC-1319/1

Time: 11:27 CDT, 28:16:27 GMT

6/21/73

PAO Skylab Control at 16 hours 27 minutes and 49 seconds Greenwich mean time. We are just about to acquire signal at the Vanguard tracking ship, and will remain live for air-to-ground from Vanguard.

CC Skylab, Houston; through Vanguard 8-1/2 minutes.

CC Skylab, Houston; Vanguard 8 minutes.

SC Roger.

CDR Hey, Hank. I think that we could wrap those urine separators in a manner so that they can't turn sideways, which seems to be the bad feature, and get them through the airlock, if you want to try that. If not, we're open to whatever you guys want to do.

CC Okay, Pete. Storey's over at the trainer right now, trying to come up with a scheme to get them down and we'd like for you to hold off until we get the results from that.

CDR Okay.

CDR Tell him that my suggestion is, to put two towels and tape them on either side of the flat - on either flat side, so that they can't turn sideways in there. And, just individually one at a time, because the more bundles you get, the worse things get (garble).

CC Roger. That's exactly what we're looking at, is trying to tape the towels to it and see how we can package it up so it won't hang up.

CC Skylab, Houston. We're approaching LOS. Hawaii will be coming up at 37, an hour from now.

SC Okay.

PAO This is Skylab Control at 16 hours 39 minutes and 23 seconds Greenwich mean time. We have lost signal at the Vanguard tracking ship, as the spacecraft passed over the eastern horizon in the south Atlantic Ocean. At the present time we're 57-1/2 minutes from acquisition of signal at Hawaii. That's nearly an hour from now. And at that time, we should get some additional information up to the crew on the status of our urine separator dump procedure. It was discovered this morning, in the trainer at Johnson Space Center, that it's not possible to put the urine separator directly through the trash airlock. This apparently, was not discovered earlier. And they're now considering other ways of getting it through that area. The problem is, that the urine separator which was never dumped during the training periods does not fit directly through it. It tends to turn in the trash airlock and for that reason catches, and they can't dump it. So, they are now looking at ways of keeping it from making that turn. Suggestion came down from the crew to wrap it in towel - tape towels to it. Another possibility is using some sort of a

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Time: 11:27 CDT, 28:16:27 GMT
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box to put it in. We have the weather forecast for the landing of the space station, tomorrow morning, at just before 8:50 a.m. central daylight time. That weather forecast, prepared by the space flight meteorology group of the National Weather Service, said this morning that weather conditions for the landing and recovery of the Skylab Astronauts on Friday will be satisfactory. Although skies are typically cloudy in the landing area, located approximately 830 miles southwest of San Diego, California, the clouds will have little vertical extent, and so even though television coverage of the descending spacecraft may be interrupted, the clouds will present no danger to the crew. Winds are expected to be from the northeast at about 12 knots, seas at about 4 feet, and the temperature near 67 degrees. That report from the space flight meteorology group of the National Weather Service, a branch of the National Oceanic and Atmospheric Administration. After further temperature - analysis of temperature data, thermal engineers at Johnson Space Center's Mission Control Center, with assistance from the Huntsville Operations Support Center, at Marshall Space Flight Center, have decided not to move the parasol, which was rotated about 15 degrees after Tuesday morning's EVA. While it's not possible to determine what benefit the counterclockwise rotation made by Commander Conrad, from inside the workshop, had, Flight Controllers are confident that the changes had no adverse effect. Temperatures in the orbital workshop living area are now slightly above 80 degrees, with one of the sensors reading as high as 84 degrees. This increase, amounting to several degrees over the past few days, is due to a change in the period of time the spacecraft spends in sunlight. Beginning today, June 21, the first day of summer in the northern hemisphere, the spacecraft will spend about 4 full days in sunlight. The last brief period in darkness entered into just before 11:00 a.m. central daylight time this morning. Because the movement of the Earth's axis, which now points the north pole closer to the Sun than any day in this past year - and this is of course a regular, not June 21st, the longest day in the northern hemisphere - the Skylab space station is able to remain in sunlight for a maximum time. This opportunity is repeated at December 21, the longest day and the beginning of summer in the southern hemisphere. But in addition, a slight variation in the circularity of the space station's orbit - This is a variation that is inevitable and occurs with every spacecraft, no matter how slight the variation - that slight variation now approximately 12 to 14 miles from the high point in the orbit to the low point in the orbit causes the spacecraft

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to have an orbit that is constantly changing. The orbit low point acts as a brake as the spacecraft comes down closer to the atmosphere where there is a slightly larger amount of material. It does break the orbit and changes its angle so that the orbit is constant. Although it is at a regular 50 degrees inclination from the equator, it does tend to move around the Earth with a 50 degree high point occurring at a different point each time it goes around the Earth. Because of this precession of the spacecraft orbit, there are high and low points within that band of the Earth's changing orbit. Very complex series of figures but at this time we've passed the 100 degree, 100 percent sunlight time. This is the only time during the orbit of the spacecraft in the next year that the spacecraft will be at this condition. This is for the reason that right now the spacecraft orbit and the Earth's orbit are both at such angles that we have 100 degrees sunlight, 100 percent sunlight. Now that does have a temperature effect that is quite observable on the spacecraft. In addition to that, because long periods of sunlight, there are some temperature increase. So far it's been several degrees noticeable in the atmosphere of the spacecraft. After 4 days, we go back into a period where the orbital plane has now moved around again, and the spacecraft is no longer in 100 percent sunlight. The low point in the sunlight period is approximately 61 to 62 percent, and that will appear several times during the mission. What this means of course is we have considerably more electrical power available than we normally do. But, at this point, since experimental work is pretty much completed, there is no use for that electrical power. We will again reach very high points later in the mission, 90 to 91 percent, but nothing as high as the 100 percent we'll be experiencing for the next 3 or 4 days. Temperature increases are not serious increases but they will make it a bit warmer than it has been in the past. And they do considerably interfere with determining the effect of that parasol rotation. The rotation was made to cover a hot spot in the orbital workshop near the water tank. So the rotation will stand as it is at approximately 15 degrees counterclockwise rotation. We don't believe there was any adverse effect, we're not confident that there was any positive effect. And for that reason they won't make any change to that now. It looks like a successful move, it certainly hasn't had any bad effects on the mission. This is Skylab Control. Our next acquisition of signal 51 minutes and 15 seconds from now. It is now 45 minutes and 55 seconds after the hour.

END OF TAPE

SL-II MC1320/1

Time: 12:34 CDT, 28:17:34 GMT
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PAO Skylab Control at 17 hours 34 minutes and 3 seconds Greenwich mean time. The present time we're 3 minutes from acquisition of signal at the Hawaiian Island tracking station. And we have some additional information now on the urine separator problem that we had a few moments ago that was reported earlier in the pass and we now have some - a report here from Mission Control. Story Musgrave, one of Skylab's backup team of astronauts, has completed his work in the trainers here at Johnson Space Center on the problem of dumping those three urine separators. Musgrave said that wrapping the separators with the towels, which was suggested by the crew over Vanguard about an hour ago, would in fact aggravate the problem of putting them through the trash airlock. He found that the urine separators which separate drops of urine from the air in the space station's three urine containers would be no less likely to be caught in the trash airlock if wrapped in towels and would be more difficult to free once they became caught. Musgrave said that two plasticized pieces of paper could be taped to cover the protruding edges of the urine separator, which is a metal disc about 1 foot in diameter, and three or four inches thick. The urine separator however, has several irregularly shaped edges and pieces of metal attached to it. After a review of the suggested procedure in which Musgrave said that no one could have designed a piece of metal more likely to hang up in the airlock, Flight Director Neil Hutchinson consulted with life scientists on the safety of an alternative procedure. Hutchinson, with agreement from the flight operations management room - and we have acquisition of signal at Hawaii, and we'll stay live for air-to-ground and complete this afterwards.

CC
minutes.

Skylab, Houston; through Hawaii for 6-1/2

SC

Hello.

CDR

Say, Houston, CDR.

CC

Go ahead.

CDR

One thing that we couldn't find was the sample return bags for the OWS water and we have put a sample in a in-suit drinking device, which will be in L3 vice the sample bag. And it is so marked - you want to tell the collection people that on the ship?

CC

Okay, wilco. And - we looked at this urine separator problem and - and it looks like that's a pretty dangerous thing to do is to try to dump it. Not dangerous, but it could jam the airlock very easily. So what we're going to recommend is that you take the three separators and put them in the T027 sample array box. Make sure the lid's on plenty tight and vent down and then we'll forget about it.

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It should take about 15 minutes probably to pull it down.

CDR Okay, I told you it didn't hold the vacuum and I just checked that and pulled another vacuum on it. I'm going to see whether it holds it or not. It did not hold it the other day when I put T027 back in.

CC Okay, we're not really concerned about that. If we vent it down one time, then the in-flow of the air is into the thing, and I guess we don't worry about that.

CDR Okay, that's where we'll put them.
CC And one other thing, Pete. We been watching this Quad A. The temperature is still sneaking up on it, and we're running about 3 or 4 degrees below the trip point. So rather than having that thing wake you up tonight, we'd like to have you inhibit the 5 Bravo there on panel 201 (garble)

CDR Okay, 5 Bravo.
CC Skylab, Houston. If it's convenient, could you tell us where you are on the checklist?

CDR Well, the SPT is complete for tonight because the urine separators are all changed out, and I'm helping the other guys who helped me catch up.

CDR Yeah, we're closing out the wardroom, we're just getting ready to shutdown the water system.

CC Roger. Copy.
CDR I'm actually on page 1-44, step 3. What's our next station, Hank?

CC What was your question again, Pete?
CDR Next station.
CC Okay, the next station will be Vanguard again at - at 08, and we got a recorder dump there. And we're about a minute from LOS.

CDR Okay, well I'll have the food for you.
CC Okay.

CDR Also, you sent us a message about transferring some film, and there was one film number that was wrong on there. CI19 is one of the films that we were going to shoot up. So the film that we transferred from drawer A to drawer P, as I remember, was 21 - CI21 through CI24.

CC Roger. Copy.

END OF TAPE

SL-II MC-1321/1
Time: 12:44 CDT, 28:17:44 GMT
6/21/73

PAO

Skylab Control at 17 hours 44 minutes and 23 seconds Greenwich mean time. We have lost signal at Hawaii, and will next acquire in 23 minutes and 14 seconds at Vanguard. During this last pass the procedure to be used by the crew in disposing of those urine separators was sent up by spacecraft communicator Henry Hartsfield. As I was saying earlier, there was a procedure suggested to them for disposing of the urine separator, which it is felt might have hung up rather easily in the trash airlock. That procedure that was suggested by Story Musgrave is to wrap them in plasticized sheets of paper. These are papers that might for example contain subsequent instructions that no longer are to be used by the crew. Those plasticized sheets of paper would be wrapped around the urine separator and then it would go through rather easily. Surprisingly enough the urine separator doesn't look like it would hang up in the trash airlock at all. It is quite a bit smaller than the airlock, but it does have those sharp protruding edges, and those edges can catch very easily on parts of the airlock. And that is the danger. After a review of that suggested procedure, flight director Hutchinson consulted with life scientists on the safety of an alternate procedure. Hutchinson with agreement from flight operations management room and Marshall Space Flight Center engineers said that the 3 separators should be placed in the T027 sample array container. The sample array container is no longer necessary for the ATM contamination experiment T027. This procedure, despite a slight leak in the strong vacuum that that container box has, is considered a far safer method of disposing of the separators. The box has room for about 6 separators, which is enough for this and the next Skylab manned mission. For the third mission, final Skylab mission. Of course it would not be necessary to dispose of the urine separators since the spacecraft will no longer be in use. While the separators are completely safe and out of the way in the T027 box, mission controllers felt that a slight chance that one of the separators might become wedged in the trash airlock was an unnecessary risk to future missions. The trash airlock is a very important part of the operations of the workshop. And for a 56 day mission, it would be virtually essential that they keep that opening clear. It would present some real problems if it were closed up. It would be possible to depressurize the workshop and to open it up and do a intravehicular activity, an IVA, to solve the problem if it should become jammed, but that was considered an unnecessary risk, the T027 box will be used instead. Late

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in this pass over Hawaii, the crew informed mission Control that the film transfer from drawer A to drawer F had to be modified slightly because they had been instructed to transfer a piece of film, this is unexposed film that they had intended to use. The film transfer from drawer A to drawer F is in order to offer better protection from radiation. There was some concern that because of the radiation in space that that film might become exposed in drawer A than in drawer F. Both of them are considered safe, but drawer F is the safer of the two. So they did make that film transfer. They are now considering a possibility of maybe doing further wrapping of the T027 - the urine separators - before they go into T027. While Story Musgrave was in Mission Control, he also brought over the MOL SIEVE canister that nearly caused this jam up in trash airlock earlier today. The reason that happened as we discovered here in Mission Control is that with the canister and several towels and the large EVA gloves, that bag was very very nearly as full as it could be. And because of that it was surprising really that it went through. It was an overpacked bag, and apparently that is something will be given consideration between now and the next Skylab mission. The bag should probably not have had as nearly as much material in it as it did, and I'm sure that the EVA gloves at least will be left out in the future times. The canister is a very large object, about a foot and a half long and something over a foot in diameter. But, the trash airlock problem now is essentially solved. They did finally succeed in getting that bag through earlier today and the urine separators are now to be placed in the T027 container which is a vacuum chamber. And whether or not there is a vacuum really has very little to do with the safety of the box. It is a sealed container and it is unlikely that any leakage would occur out of the box. There, of course, would be no danger from that any way. There was some concern on the part of the flight director that there might be some microbiological problem but the medical officer informed us that there was no danger at all. That urine is sterile and that for that reason there is very little risk in fact no risk at all in his opinion. So that problem has now been solved and the crew is doing their best to get along towards bed. They indicate that the Science Pilot Joseph Kerwin had completed all of his activities for the day. And they expect within probably something earlier than they had originally scheduled - they were originally scheduled to go to bed something over an hour and a half from now at 2:30 p.m. central daylight time. It now appears that they may get to bed something earlier than that, although we don't have an exact

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time yet. The crew will wake up tonight at 7:30 p.m. and begin preparations for the splashdown to occur tomorrow morning at 8:50 p.m. central daylight time, 830 miles southwest of San Diego, California. This is Skylab Control at 50 minutes and 13 minutes after the hour.

END OF TAPE

SL-II MC-1322/1

Time: 13:05 CDT, 28:18:05 GMT

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PAO Skylab Control at 18 hours 5 minutes and 45 seconds Greenwich mean time. At the present time we're about a minute and 50 seconds from acquisition of signal at Vanguard. And we should hear from the crew again, to find out what's happened now with the urine separators that they were to dispose of in the T027 canister - T027 Container. The flight director indicates that he will be available for a press conference shortly after this pass. We're sorry for the short announcement; that means approximately 15 minutes from now. He would like to try and get in for a press conference, since he has to be back on duty again in about 6 hours, he's requested that we make that press conference as short as possible. This is Skylab Control. We'll remain live for air-to-ground from Vanguard. And a reminder; that press conference should begin in approximately 15 minutes in the building 1 small briefing room, with off-going Flight Director Neil Hutchinson. We're alive for air-to-ground.

CC
9-1/2 minutes.

Skylab, Houston; through Vanguard

SC

Roger

SC

Give you the evening status report now.

SC

Are you ready for the day-172 close

out numbers?

CC

I think we've got everybody up now, Pete.

Go ahead.

CDR

Okay. The Alpha for the CDR was, 045, the SPT was 040, for the PLT was 030. Bravo was 4478 for the CDR. The SPT was 7315, and the PLT was 5459. I believe we reported Charlie this morning. We've reported Delta, also, to you today and Echo. And let me get over to the food. Okay. The PLT, who didn't have any Delta reported, had 2/15/2000. And the food was as follows: CDR ate everything plus 2 butter cookies. And at lunch time today we made the substitution that we told you we were going to make on B-Channel on day 22. I hope everybody was aware of that one. We never heard anything. So we went ahead and did it. I had 10 optional salts. And the SPT - he ate everything, and he also did not - He did make the substitution that I just mentioned for lunch. And he did not have any coffee, was sugar for snacks, and he had 7 optional salts. The PLT ate all his breakfast. He ate all his lunch with the substitution, as mentioned, no corn, no bread, and no coffee with sugar. He had 1.5 extra water and 5.0 optional salt. And he wants to talk to you.

PLT

On this wardroom water drain, I notice our waste tank pressure's getting kind of high, I'm suppose

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to switch to the chiller now. Do you want me to go ahead and switch? Because there's a caution under procedures; it infers you don't want any of it to flow, once it starts.

CC Stand by, one.

CC Okay. That's correct, Paul. Press ahead. Don't interrupt the flow.

PLT Okay.

CDR Okay. The CDR is going to have 2 cans of butter cookies tonight.

CC Roger. Copy.

CDR Did you get those scheduled photos (garble) the way I left them with Mr. Truly? And that's it.

END OF TAPE

SL-II MC-1323/1
Time: 13:12 CDT 28:18:12 GMT
6/21/73

CDR
CC

Hey, Hank, are you there?
Roger, we've got a couple of minutes

left.

CDR Hey, look, these T027 cans, I hate to belabor the point, but I've had the vacuum hose on it for a half an hour, and I went up, pulled the hose off, and opened the lid. That's how poor the vacuum is. Now, the valve is going to stay open, the (garble) valve is going to stay open. Do you want me to leave the vacuum hose connected to T027 for good? They can unconnect it when they get up here and maybe they will have some way to throw those things through the trash (garble) airlock and then give it up.

CC That's negative. We don't want to leave the hose connected.

CDR It ain't doing any good to stow it in there, I can tell you that, because that thing has got no vacuum whatsoever. I mean I can't even pull the vacuum long enough to hold the lid shut. I'd rather (garble) around with the (garble) and put them out the trash airlock I believe we could do it. Think it over and tell me at the next station.

CC Okay. Can you tell if you are getting any flow at all out through the hose while you've got it hooked up?

CDR You bet your sweet bippy. I put the hose just to check that too. I put the hose on the lid with it open, and I can - it's just sucking away merrily right through the vacuum port where it is supposed to. It's called a vacuum, but I don't know why the lid doesn't - for some reason it doesn't hold. (garble) It had the vacuum in it when we came up here.

CC We're about 30 seconds from LOS. Ascension is coming up at 23, and that will be your med conference.

PAO Skylab Control at 18 hours 17 minutes and 54 seconds Greenwich mean time. We have now lost signal at the Vanguard tracking ship. And as we cross the south Atlantic towards Ascension, there are plans underway to begin the private medical conference. That's the daily private medical conference to report the status of the crew health. And we expect that will be taking place at Ascension. That had been scheduled earlier for Vanguard, but they did make a modification because they wanted to clear out the status of crew activities this morning. So there will be a private medical conference at Ascension. We will come up about a minute before and announce that we're live at Ascension, but we do not expect any sort of discussion until later in that pass. It is a 7-1/2 minute pass, and we should have some time returned to us from the medical officer for live air to ground from here. This is Skylab Control at 18 minutes and 49 seconds after the hour.

END OF TAPE

SL-II MC1324/1

Time: 13:22 CDT, 28:18:22 GMT

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PAO Skylab Control at 18 hours 21 minutes and 51 seconds Greenwich mean time. The present time the spacecraft is 1 minute and 20 seconds from acquisition of signal at Ascension. The Ascension pass is reserved for a private medical conference held daily with the crew to discuss the present state of their health. We do expect that when the doctor has completed his private conference we will have a live air-to-ground from Ascension. Just a few moments ago we were informed by the crew that they were having difficulty drawing a vacuum on that - that they had been having difficulty drawing a vacuum on the T027 box that will be used to store the urine separators they took out of the urine containers earlier today. After a review of that and a discussion with Surgeon John Zeiglschmid Dr. Zeiglschmid indicated that there was no danger from contamination or from bacteria in that area and for that reason whether or not they have a vacuum makes no difference. They'll be informed of that no doubt, at the end of the Ascension pass provided there is time. Flight Director, Neil Hutchinson, now off duty, is on his way to the building 1 briefing room for a short press conference. Because the flight director does have to be back tonight at 8 o'clock. He goes on shift at 9 tonight and will be on for a 12 hour overnight shift until after splashdown in the morning. We would like to ask that that press conference be as brief as possible. This is Skylab Control. We'll remain live in the event that the private medical conference is brief for any air-to-ground from Ascension.

CC Skylab, Houston. We got about another 5-1/2 minutes through Ascension.

CDR Roger.

SC Okay, you might pass on - I assume that the deactivation of the water system for SL-III is pretty much the same as ours. These numbers aren't working out too well. I'm sure you guys saw there what the waste tank pressures got up to. Plus I been waiting at least 3 minutes for the dump pressure to get down and right now it's reading just a tad over 1. I'm still waiting for it to get below 0.7.

CC Roger. Copy.

CC CDR, Houston. In regard to the T027 container, we're not concerned about the fact that it won't hold the vacuum. We want you to put the separators in there and batten down the hatch and forget about it.

SC All right.

SC It's Al's worry, not mine, Hank.

CC PLT, Houston. EGIL says we ought to

SL-II MC1324/2

Time: 13:22 CDT, 28:18:22 GMT
6/21/73

press ahead, we can go on the time. Just go 6 minutes and
let that do it.

PLT

CC

checklist going to 6 minutes. That's for the PLT.

PLT

PAO

I didn't get that, Hank.
Roger, we'll follow the times in the
Okay.
This is Skylab Control. We are much
prepared to have - begin a briefing in the Building 1 small
briefing room and we have taken down the line and will record
the remainder of the Ascension pass. This is Skylab Control
at 28 minutes and 50 seconds after the hour.

END OF TAPE

SL-II MC-1325/1
Time: 13:46 CDT, 28:18:46 GMT
6/21/73

PAO Skylab Control at 18 hours 46 minutes and 28 seconds Greenwich mean time. We will now play the conclusion of that Ascension pass that we recorded because of the briefing going on in building 1. This is the final air-to-ground from Ascension. Our next acquisition of signal, about 20 minutes away. Here's the replay of that air-to-ground from Ascension.

CC Skylab, Houston. We're about 1 minute from LOS, Guam at 07.

PLT Roger, Houston. And the CDR has managed to get some vacuum in T027.

CC Roger.
CDR Got the same old problem, Hank. Loose nut on the stick, the CDR.

CC Roger. Copy.
SPT You should see the other set of clamps on the head side.

CC (Laughter). Roger.
PAO Skylab Control at 18 hours 47 minutes and 32 seconds. That concludes the air-to-ground from Ascension. During that last brief interchange they indicated that they had successfully gotten some vacuum on that T027 can - T027 canister, the container being used to hold the urine separators from the - the urine separators was found out - It was found out earlier, that the urine separators were not going to go through the trash airlock as easily as they had previously anticipated and for that reason, they decided to put them in the T027 canister. They do now, have a successful vacuum on that. And that's a good report, although, there wasn't any emergency - there was no danger of any problem, because of no - Because of the lack of vacuum, they are pleased to know that they do have a vacuum on that, as an additional precaution. This is Skylab Control. Our next acquisition 18 minutes and 43 seconds from now. It is now 48 minutes and 24 seconds after the hour.

END OF TAPE

SL-II MC1326/1
Time: 14:05 CDT, 28:19:05 GMT
6/21/73

PAO Skylab Control at 19 hours 5 minutes and 14 seconds Greenwich mean time. We're approaching acquisition of signal at the Hawaiian Islands - I'm sorry at the Guam tracking station. We should have acquisition there at - in 1 minute and 38 seconds. This is Skylab Control. We'll remain live for air-to-ground from Guam.

CC Skylab, this is Houston on the last AOS of the day, standing by for 6 minutes.

CDR Hello, Houston. What time is it down there anyway?

CC The local time is 2 o'clock in the afternoon.

SPT Goodness gracious. Well, we're going to bed.

CC Sounds like a fine idea.

SPT I shouldn't have asked, the PLT was getting sleepy and now he's wide awake again.

CC Sorry about that.

SPT So I'm going to play him some soothing music. Neither country and western, nor classical nor Up With People, something everybody can get along with.

CC Beautiful. Beautiful.

SC (Music: "My Country tis of Thee")

CDR Hey Carl, where are we?

CC Skylab, Flight sends his compliments about your selection of music and we're currently over Guam.

CDR Over Guam, okay.

CC And Skylab, a couple of small matters; first of all, we'd like confirmation that you've proceeded the rest of the way through the waste - the waste management water procedure. Also like to confirm that you took the T027 rods out of the box before you put the urine separators in.

CDR No, nobody said to take the rod out. Want the rod out? I'll take the rod out.

CC Okay, that's no big deal. We'll take it as it is, just a point of information.

CDR Okay.

PLT Yes, the water system deactivation is complete.

CC Roger, and thank you.

CC Skylab, Houston. We have 40 seconds to LOS and we'll see you early tomorrow morning on splashdown day.

CDR Okay, Houston, and be advised that I'm going to take transporter O3, which has supply C118 and take up C117 and stow it in the back of Fdrawer. It's one of the (garble) we were going to use. We don't have anything to

SL-II MC1326/2

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use it on and it's fully loaded and I'm just going to put it away in F drawer for him.

CC

Roger, Pete. We copy.

CC

through here. Just for reference, can you tell us where you put the bag with the SO19 film canister?

MCC

Yes, sir the CAP COM has it.

CDR

Which SO19? The good one or the bad one?

CC

It's the bad one.

CDR

The bad one's in a plenum bag.

CC

Roger. We copy.

CDR

experiments compartment area by the sunny SAL.

CC

Roger. We copy, and thank you.

CDR

Going to use it for something?

CC

Say again.

CDR

Going to use it for something?

CC

be spare parts in the battery that could be useful later.

CDR

There's a possibility that there might

PAO

Okay.

Skylab Control at 19 hours 14 minutes and 25 seconds Greenwich mean time. We have lost signal at Guam. This will be the last pass of the workday for the crew. They indicated that they are ready to go to sleep. They will be getting up early tomorrow morning by their definition, but 7:30 p.m. Central daylight time, about a little over 5 hours from now. A very short sleep period for the crew. And they have to get up that early - -

END OF TAPE

SL-II MC-1327/1
Time: 14:14 CDT, 28:19:14 GMT
6/21/73

PAO - - central daylight time, about - a little over 5 hours from now, a very short sleep period for the crew. They have to get up that early to begin the closeout of the orbital workshop area. And then they pass through the hatch of the MPA, lock that, go to the command module and begin their return home. That schedule of events ah - all ready been released. There haven't been any changes so far from our details on retrofirer and other events. We do expect the splashdown to occur approximately 8:50 a.m. central daylight time tomorrow, 835 miles southwest of San Diego, California. And the USS Ticonderoga Aircraft Carrier is on station there now, preparing for that splashdown. So beginning at 7:30 this evening, when the crew awakens, we'll have the procedure for closeout. The time for splashdown, 8:50 tomorrow morning. This is Skylab Control, 15 minutes and 44 seconds after the hour.

END OF TAPE

SL-II MC-1328/1

Time: 14:47 CDT, 28:19:47 GMT
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PAO Skylab Control at 19 hours 46 minutes and 51 seconds Greenwich mean time. We have now acquired signal over Vanguard Tracking Station. We do not expect to hear from the crew during this pass, and we are recording the air to ground. In the event that anything does happen at Vanguard, we will bring that up later. We have received a daily medical report from Dr. Willard Hawkins. He reports that at 13:20 hours local, that's during the Ascension pass something over an hour ago, the crew were ready to bed down. Their health is good, they have no medical problems that concern us regarding entry tomorrow morning. They will be wearing the counter measure garments unpressurized during entry as programmed. That's signed by Dr. Willard Hawkins, the Flight Surgeon. To repeat that message, the health of the crew is good. They have no medical problems that concern us regarding entry tomorrow morning. They will be wearing the counter measure garments unpressurized during entry as programmed. After awakening the crew has now gone to sleep. Our last pass over Guam they reported that they were on their way to bed. And we do expect them to be sleeping now. They went to bed about 2:15 p.m. central daylight time today. After awakening at 7:30 p.m. central daylight time this evening, the crew will begin activating the command module, a procedure that requires nearly 3 hours, and is to be completed shortly before midnight tonight Houston time. In the following hour, the crew will don their suits and complete the closeout activities in the space station, before 2:00 a.m. By 2:00 a.m. the crew begins final preparations for disconnecting the command module from the Skylab cluster. Final calculations now underway for the command module maneuvers required for tomorrow morning's splashdown, indicate that no change will be made in the times for those events. The command module is scheduled to undock at exactly 3:45 a.m. central daylight time with the space station over the north Pacific about 1200 miles north of Hawaii. Separation from the workshop cluster using the small reaction control system jets for 23 seconds beginning at 4:40 a.m. central daylight time follows. The separation burn will slow the command module 5 feet per second or about 3 miles per hour moving it behind the space station. After it has completed its fly around. As the command module slows, it will move into a lower orbit and pass beneath the Skylab cluster. The separation takes place over the Indian Ocean some 2,000 miles due south of the Island of Madagascar. Following separation at 5:05:30 a.m. CDT, Friday the main engine or service propulsion system will be fired for 10 seconds to slow the spacecraft an additional 264 feet per second or about 180 miles per hour, putting it

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in an orbit 233.6 nautical miles at its high point and 90.7 nautical miles at its low point. That is to say the high point in the altitude of the command module's orbit will be about 269 statute miles, and its low point 104 statute miles. This orbit-shaping maneuver will be conducted over the Philippine Sea, 600 miles east of the island of Mindanao. The final burn or retrofire which requires a 7 second burn of the main engine slows the command module another 190 feet per second or 130 miles per hour. That will be made at 8:10:43 a.m. central daylight time over the northernmost area of Thailand. The spacecraft will take more than 23 minutes to reach the 400,000 foot mark, and that occurs just minutes before splashdown. Splashdown is scheduled to occur 830 miles southwest of San Diego. It will occur near the USS Ticonderoga, an aircraft carrier that is presently stationed there. Splashdown is at 8:49 and 57 seconds a.m. central daylight time, 830 miles southwest of San Diego. This is Skylab Control with a final message until, after 7:30 this evening. We do want to report that there will be a briefing that will be held on our release lines - An AIAA briefing held on the practical uses of Skylab's electronics technology. These are practical commercial applications already underway that have been made from technology developed for the Skylab program. That will begin at 3:00 p.m. central daylight time, and will be carried on the release lines. It is in the small briefing room at NASA Johnson Space Center. This is Skylab Control at 51 minutes and 53 seconds after the hour signing off until 7:30.

END OF TAPE

WAIVE UP

SL-II MC-1329/1
Time: 19:47 CDT 20:00:47 GMT
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PAO Skylab Control at 46 minutes and 55 seconds after 0 hour Greenwich mean time. At the present time we are a minute and 50 seconds from acquisition of signal at our Mila tracking station at Merritt Island, Florida, and we expect the crew to be wide awake already. They are believed to have set their alarm clocks for 7:30 p. m. central daylight time wakeup, but there will be a callup from Spacecraft Communicator Karl Henize and the maroon team of flight controllers. This is Skylab Control. We'll remain live for air-to-ground from Merritt Island, Florida. PAO Skylab Control, we have acquisition of signal at Merritt Island.

CC Good morning, gentlemen. Welcome to mission day 29, the last day of a very successful Skylab 2.

CDR Good morning, Karl. Everybody's up and at 'em. We're (garble) Very good. We'll be with you for 12 minutes through Mila and Bermuda. SPT It's wonderful of you to pretend it's morning just for us.

CC Down here in Mission Control, it's hard to tell the difference. Imagination does everything. Incidentally, be assured that we have scoured all of Houston for an appropriate wakeup song. We wanted it to be Rubber Duckie, and weren't able to find it. Sorry about that.

CDR (Laughter)
CC And, Skylab, you have four burn pads on board. 2901, 02, 03, and 04. We'd like for you to confirm that they're on board and okay.

SPT We got them and preliminary glances - it looks like they came through good, Karl.
CC Very good; thank you.
CDR You really mean three burns and an entry pad, don't you?

CC Okay, I'll Roger that.
CDR You can tell that big man I heard say "Yes" in the background hello.

MCC He said Roger that.
CC He says thanks and hello back.
CDR Say, Houston; CDR. Would you pass to me one more time the approximate time you wanted to move the RCS hot fire? Do you want to get it in Guam, or do you want to get it in Carnarvon instead of Guam, or something? I got it in my book, but I just want to stick it in my mind.

CC Stand by.
PAO Skylab Control; we have a temporary

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interruption in communications from our site at Merritt Island.

CC Roger, Pete. We'd like to do that over Carnarvon instead of Guam.

CDR Yes, what was the approximate time?

CC Roger, Pete. The time we have down here is 15:05. 15:05 PET.

CDR Thank you, sir.

CC Skylab, Houston. We'd like to confirm that you have the undocking procedures on board. And we're referring to two messages. One is 2317, and this in turn refers you to message 0105. Are both of those available to you?

CDR Wait 1. I think you're referring to the one - the first one you're referring to, I put in the checklist, in the fourth section, if I'm not mistaken. Let me look for the other one.

CDR Okay. Here's the number on the - I got a 0620A and 0315, and that was the real old one. And then I put one in the procedures book - the CSM procedures book. That's the only three I know about.

CC Roger. Is the one in the procedures book - it said to put it on the back of page 5-11. Could you confirm that?

CDR That I can confirm.

CC That's in the Systems Checklist. You do have that one on board?

CDR That's Charlie. It's in the command module right now.

CC Okay, Pete, and the other message was the undocking message that went up on day 1 and is still important. We think that that was placed in the command module. Do you have any reference to it? That's 0105.

CDR 0105, no I - pass my memory on that one. Would it have been a message that we put in the systems book?

CC Okay. It sounds like that. We'll put that on the teleprinter for you.

CDR Very good.

END OF TAPE

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CDR Would it have been a message that we put
it in the Systems Book?
CC Okay. It sounds like that, we'll put
that on the teleprinter for you.
CDR Very good.
CC And we have 1 minute to LOS; we'll see
you at Madrid in about 3 minutes from now.
PAO Skylab, Control at 1 hour and 20 seconds
Greenwich Mean Time. We have lost signal over our Bermuda
station after a pass through Merritt Island and Bermuda.
And we'll acquire signal again at Madrid in approximately
3 minutes. The crew awakened about 7:30 P.M. Central
Daylight Time tonight, just about an hour ago. And
they were told by Spacecraft Communicator Karl Henize
that we'd looked all over Houston for a song to play up to them -
an appropriate wakeup song. He said they were looking
for Rubber Ducky, that was a reference to yesterday morning,
when Kerwin, the Science Pilot, called down and said he
was all ready to go, but he couldn't find his rubber ducky
anywhere, and then shortly after that we heard the sound
of a rubber duck - the kind of squeal that's made by the
rubber duck and Kerwin said "Oh, here it is. I'm ready
to go now." So, we looked for Rubber Ducky to wake them
up, but didn't have any luck on that. We had - a medical
status report was sent up to - the crew at Honeysuckle
tonight, on the teleprinter. That medical status report
indicates that the winner of the Butter Cookie Derby is
Pete Conrad. Pete Conrad has eaten 40 cans of butter
cookies in 28 days. That sets a new record for that
period of time. Joe Kerwin was second with 32 cans of
butter cookies, and it nearly surpassed the record set by
Astronaut Bill Thornton 49 cans in 56 days. Twice as long
a period of time so it indicated that the Thornton record
will carry an asterisk like that carried by Roger Harris in the
home run hitting area and there also on the message is a
comment that 20 cans of cookies will be waiting on the TICO, the
U.S.S. Ticonderoga. This is Skylab Control. We're about 2 minutes
from acquisition of signal at Madrid. Crew had a busy day
yesterday. They were awakened at about 1:00 A.M. Houston
time, Thursday. They had a busy day going through various
deactivation procedures, mostly storing parts away and getting
rid of rubbish in the area. They were given instructions
earlier to - on the going home instructions sent up on the
teleprinter, they were told to sweep out the Skylab workshop,
turn the refrigerator on low, turn out the lights, terminate
the paper delivery, set the thermostat, inform their
neighbors that they'll be gone at least a month, put the
garbage out, and pray for a pickup, and also to put the
cat out. This is Skylab Control. We're 1 minute from

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acquisition of signal at Madrid. And we'll remain live
for air-to-ground there.

CC Skylab this is Houston through Madrid.

SC Roger.

CC We'll be with you for 8 minutes.

CC Skylab, this is Houston. We have

40 seconds to LOS; we'll see you again over Carnarvon at
36.

SC Roger.

PAO Skylab Control at 1 hour, 12 minutes,

and 11 seconds Greenwich Mean Time. We have lost signal
at the Madrid tracking station. Our next acquisition
a little under 25 minutes from now will be at Carnarvon,
Australia. We have indicated times now for the television
fly-around, this evening, that follows the undocking
procedure, and precedes separation. TV fly around over
the United States should have acquisition of signal
at about 3:52 AM Central Daylight Time and the pass lasts
15 minutes and 52 seconds according to predicted
site acquisition tables and that would mean it would
run from 3:52 AM Central Daylight Time to 4:07:52 AM
Central Daylight Time. That's the pass that goes through
Goldstone and ends over Merritt Island Florida. This is
Skylab, Control. Our next acquisition of signal in
24 minutes and 12 seconds. Now 13 minutes and 5 seconds
after the hours.

END OF TAPE

SL-II MC-1331/1
Time: 20:35 CDT, 29:01:35 GMT
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PAO Skylab Control at 1 hour 35 minutes and 19 seconds Greenwich mean time. We are now approaching acquisition of signal at our Carnarvon tracking station in Australia. We expect to acquire signal there in 1 minute and 45 seconds. This is Skylab Control. We'll remain live for air-to-ground from Carnarvon.

CC Skylab, Houston through Carnarvon for 10 minutes.

CDR Roger.
PLT Good morning, Henry. Hey, I just wanted you to know - wait until I find the other speaker.

PLT Okay, Hank. In proceeding through the close-out, I'm not closing out - turning off the heat exchanger fans yet. And I got a question. The instrumentation selectors - you want them left on Charlie Charlie - is - I heard you say something yesterday. Is that where you want them left?

CC We'd like to close them out per checklist.
PLT Okay.
CDR I've got some numbers for you. Ready to copy?

CC Go ahead.
CDR Okay, this is the morning-evening status report for day 29. There is no Alfa for you. There is no Bravo. Charlie the Chair 27003 27004 27003. The CDR, 6073, 6074, 6076. The SPT 6625, 6634, 6623. The PLT 6738, 6738, 6738. There is no Delta. There is no Echo. Last night, you'll have to add to our last night's food. The Commander, 1 cherry drink; the SPT, 1 cherry drink; the PLT, 10 ounces of H2O. This morning the Commander had 1 cherry juice vice his coffee with sugar, 'cause who wants cold coffee with sugar. Yuk. The SPT had an orange vice his cold coffee. And the PLT had 1 cherry.

CC Roger. We copy.
CDR And the PLT had no coffee either.
CDR Have to add a - SPT didn't have his grape-fruit drink with breakfast for the TT as listed - Two T's, because I think there's snacks or something.

CC Roger.
CDR Here comes the computer.
CC PLT, Houston. Just a reminder there, you can go ahead and configure panel 617 and heat exchanger panels to stay on until you reconfigure panel 390 because we're running them in manual.

PLT Okay. Good. I'd forgotten that, Hank.
Thank you.
CDR (Garble) checklist all right.
CC Roger. We concur.

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Time: 20:35 CDT, 29:01:35 GMT
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CC CDR, Houston. We can take an E-mod now
if you're ready, or (garble) 74.
CDR Okay, is it all right to send you that
while it's doing an (garble) there, or should I wait until
the computer gets the - the IMUs up?
CC Stand by.
CC Okay, CDR. After the turn-on sequence is
complete we'll be ready. That takes about 90 seconds.
CDR Okay.
CC We've only got about 2 minutes left here.
Why don't we hold that - Honeysuckle. We might get a crop-out
in data here between Carnarvon and Honeysuckle, here. It
looks like about 20 seconds or so.
CDR Okay. We'll hold her.

END OF TAPE

SL-II MC-1332/1
Time: 20:47 GMT 20:01:47 GMT
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CC Skylab, we're back up again through
Honeysuckle for about 4-1/2 minutes.
CDR Okay. Here comes your (garble)
CC Okay. We're ready.
CDR Got it.
CC Skylab, Houston. For info, we have re-
transmitted to you message 105; that's the message we sent up
way early in the mission for mating the probe and drogue
and we retransmitted the contingency undock procedure just
to make sure you have both of those on board. They should
be in the teleprinter.

PAO Skylab Control at 1 hour and 54 minutes
and 11 seconds Greenwich mean time. We're now out of range
of the Honeysuckle tracking station, and we have 27 minutes
and 52 seconds until acquisition of signal at Texas. The
crew should now be ready to begin activating the power
systems of the command module, which has been low powered
using about 800 to 1,000 watts of electricity from the
solar powered electrical systems of the Skylab cluster. Be-
ginning the next few hours, we will change over to power
within the command module rather than using that electrical
power generated by the space station itself. While Commander
Conrad brings up the command module power, Chief Scientist
Joseph Kerwin will shut down the waste processing equipment,
and close out the computer control and display panel that
is used for conducting solar experiments on the Apollo
telescope mount. Pilot Paul Weitz will assist in both the
command module power-up and in the final steps of deactivating
the space station for the coming month of unmanned operation.
That command module activation begins about now, and it should
take them approximately 2 hours 40 minutes to complete
activation. Following the activation of the command module
and the other activities required to power down the orbital
workshop and other areas of the Skylab cluster, the crew
will don their suits beginning at about 4:40 Greenwich mean
time. That's about 20 minutes before midnight tonight, and
that should take them about an hour and 10 minutes. Suit
donning will be completed then, and closeout of the space
station takes place between 05:50 and 07:00 Greenwich mean
time, before 2:00 a. m. central daylight time, and then
preparations are made to undock the orbital - undock the
command module from the space station. This is Skylab
Control. We're 23 minutes and 7 seconds from acquisition
of signal at the Corpus Christi, Texas antenna, and we will
return before that time. It's now 56 minutes and 20 seconds
after the hour.

END OF TAPE

SL-II MC-1333/1

Time: 21:18 CDT, 29:02:18 GMT
6/21/73

PAO This is Skylab Control at 2 hours
18 minutes and 45 seconds Greenwich Mean Time, we're
now about a minute and a half from acquisition of signal
at our Texas station. We - we'll stay alive for air-to-
ground from Texas.

CC Skylab, Houston. Statewide for
16-1/2 minutes.

CDR Roger. You want (garble) accept.

CC That's affirmative, Sir. We're ready
with your uplinks and we're also stand by to monitor your SPS
repress on page 2-12.

CDR Okay that's coming up right now and
you got (garble)

CC Now wait a minute, Pete. We don't
have any data yet.

CDR Oh, okay.

CC Okay, CDR. Data looks good now, you
can go ahead.

CDR Okay.

CDR (garble) zero pressurizing
(garble) degrees, (garble) it must be on the ground.

CC Say again, Pete. We had a poor comm
here.

CDR I said, it's barely coming it into the
green now, how does it look to you on the ground.

CC Okay. We're having data problems again,
soon as we get it squared away, we'll take a look at her.

CDR That's nothing new.

CC CDR, Houston. We're seeing the pressures
now and they both look good to us.

CDR I indicate that it's still slowly
crawling up. I ask whether you want me go to Delta, you
want me to go and come back to auto now.

CC Okay, CDR. You can go back to AUTO.

CDR Roger.

CC And CDR, for info we retransmitted the
message on hooking the probe and drogue together and the contingency
undock procedures and both of those should be in the teleprinter.

CDR Looks to me like now we got the one
message, which is the one we already have.

CC You - are you saying you don't have message
0105 onboard?

CDR That's right, you sent me the other one.
That I already had.

CC Okay. We'll check that out Pete. We
haven't - if we find we haven't sent 0105, we'll resend it.
That's the one that's hook photo - the probe and drogue together.

CDR The message you transmitted was
2317B1 which I already got.

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CT Texas comm tech, Houston, comm techs net 1.
CT Texas comm tech.
CT Read you loud and clear.
CDR HI, Houston. Are you there?
CC Roger. Go ahead.
CC CDR, Houston. Go ahead.
CC CDR, Houston. We had a handover then.
We're standing by.
CC CDR, Houston.
CDR Go ahead.
CC Okay. Were you calling just a moment ago?
We had a handover there, and you were cut out.
CDR Yes, what is the undocking time?
CC Roger. It should be on the pad we sent
up.
CDR Okay. We'll use that one.
CC Okay. It's still good. 15:34:13 and I
also have your F52 stars for you that goes on page 2-32, 730.
CC I guess that's really about 740 in the
Flight Plan now.
CDR What's the page?
CC Page 2-32.
CC That'll be stars 37 and 42.
CDR Roger. Stars 37 and 42. The undock time's
15:34:13. Right?
CC That's affirmative. And your up-links are
complete.
CDR Yea, coming back tomorrow.
CC Skylab, Houston. Whenever it's convenient,
we'd like to get an update from the SPT and the PLT.
PLT Okay, the SPT has the urine lockers stowed
in the command module; is presently stowing A-7.
CC Roger; copy.
PLT The PLT is in a short hold, waiting for the
time to come up. We're going to do the command module's
power transferred internal.
CC Roger. Ye copy.
CC CDR, Houston. That message 105 ought to
be on board now.
PLT Okay.
CC Skylab, Houston. We're 1 minute to LOS.
Madrid's coming up at 41 with a recorder dump.
PLT Roger.
PAO Skylab Control at 2 hours 37 minutes and
40 seconds Greenwich mean time. We have lost signal over
our - our Bermuda tracking station and expect to acquire again
in a little over 3 minutes at Madrid. Should take nearly

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3 hours for the crew to complete the procedures required to activate the command module, and to also complete the major closeout procedures on America's first space station. During this last pass Commander Conrad was powering up the SPS - that's the main engine, the service propulsion system engine of the command module, pressurizing those tanks - fuel and oxygen tanks on the SPS. And - that's done manually up there and then put back in automatic once the pressure reaches the proper level. So, that was completed during this last pass as part of the activation of the command module. At the same time, the other two crew members are working on deactivation of the orbital workshop and other areas of the spacecraft. Shortly before midnight tonight, Houston time, the crew members are scheduled to begin getting into their suits. One of the crew members, however, will remain unsuited until after the tunnel is closed up. We expect that MDA hatch closing to take place about 1:10 a.m. Previous to that, the - one of the crew members will be asked to participate in the probe and - probe and drogue activities. That was the teleprinter pad mentioned during this last pass that - that had not been sent up in time for the crew, and that was sent up over the United States, so they'll be taking a look at that very shortly. That teleprinter pad gives interim docking procedures that, assuming the probe cannot locked and drogued normally, the summary it requires shortly - it requires the crewmen with the longest reach to remain unsuited until after the tunnel close-out. That's the probe and drogue installation. The concept is to mate the probe and drogue in the multiple docking adapter, pull it into the tunnel as the last crewman enters the command module, and close the multiple docking adapter hatch with the lanyard before installing the probe and drogue. Lanyard is to be used to close that hatch. The hatch is locked by reaching around the edge of the drogue. We don't know at this time which of the crewmen will do that job, but that'll be the one with the longest reach, and we're not certain which one will be given that responsibility, but he will remain unsuited, unlike the other two. This is Skylab Control. We'll remain live for air-to-ground from Madrid. We're approaching AOS.

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Time: 21:40 CDT 29:02:40 GMT

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PAO - possibility that he will remain unsuited, unlike the other two. This is Skylab Control. We'll remain live for air to ground from Madrid. We're approaching AOS there now. Skylab Control at 40 minutes after, remaining live for air to ground.

CC Skylab, Houston. Through Madrid for 7 minutes.

CC Skylab, Houston. Six minutes through Madrid.

CDR Roger.

CC Skylab, Houston. We're about 30 seconds from LOS. Carnarvon is coming up at 19. You're looking good going over the hill.

CDR Roger.

PAO Skylab Control at 2 hours 49 minutes and 25 seconds Greenwich mean time. We have lost signal at the Madrid tracking station. Expect to acquire Carnarvon in approximately 38 minutes. To clarify anything that was misunderstood on that last pass. The teleprinter pad sent up to the crew is an optional procedure not likely to be used unless there is difficulty. These are interim undocking procedures. Assuming the probe cannot be locked in drogue normally. A summary again of that is, in the event that the probe and drogue do not connect properly as was the case during some difficulty we had in the original docking with the workshop following the fly-around, when the crew first arrived at the space station. Assuming that probe and drogue do not interlock properly, this is a point for fitting into an opening in the drogue. If that probe does not lock normally in the drogue, it will require the crewman with the longest reach, presumably Joe Kerwin, to remain unsuited until after the tunnel closeout, that is the closeout of the tunnel between the MDA and the command module. At that point, his job will be to mate the probe and the drogue in the MDA, to take the hardware back into the MDA, and to do it by hand, rather than automatically. And then pull it into the tunnel between the MDA and the command module. This is a procedure that was just sent up over the United States during this last pass. The procedure is one that's probably not going to be likely. They have tried the probe and drogue operation inside the space station after that difficulty with undocking and believe they have got it operating properly. Ten times they tried it and it succeeded each time, but it is a possibility that it will again cause them some difficulty. This is a procedure sent up to take care of that difficulty. In that event, the last crewman would enter the command module,

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close the MDA hatch using a 10 foot long rope, and install the probe and drogue by hand and lock the hatch by reaching around the edge of the drogue in that command module tunnel. So this is a interim undocking procedure sent up in the event that they do have some difficulty with the probe and drogue interlock as they did have at the time of the beginning of the Skylab mission. This is Skylab Control. Our next acquisition of signal 36 minutes from now at Carnarvon station. This is Skylab Control, 51 minutes 45 seconds after the hour.

END OF TAPE

SL-II MC-1336/1
Time: 22:16 CDT, 29:03:16 GMT
6/21/73

PAO Skylab Control at 3 hours, 17 minutes,
and 10 seconds Greenwich Mean Time. We are now approaching
acquisition of signal at Carnarvon. We are now approaching
and expect to have that acquisition in about a minute and
45 seconds. We will remain live for air-to-ground from
Carnarvon.

CC Skylab, Houston. We got a low elevation
pass, a couple of minutes through Carnarvon.
CDR Okay, Hank. I did the P52 a little
early. Let me give you the data.

CC Okay, go ahead.
CDR Okay. Star 40 and star 45, 5 balls;
plus 00015, minus 00031, minus 00063 and the GMT, I guess,
off - now 65 was 03, 02, 0000, which I guess is 0702.
It's phoney time.

CC Roger. We copy.
SPT And Houston, SPT. Now that we've
finished with the star tracker, may I configure the ATM
for quiescent.

CC I'll see SPT.
SPT Okay. You guys check up on me.
SPT Where's your next RAD, Hank?
CC Say again.
SPT Where's the next main contact.
CC Okay. We'll drop out here for just a
minute or so. We'll come up on Honeysuckle at 28 for a
couple of minutes.

PAO Skylab Control at 3 hours, 22 minutes,
and 22 seconds Greenwich Mean Time. We have now lost
signal at Carnarvon and don't expect to acquire again for
another 4 minutes when we will be acquired by our other
Australian tracking station at Honeysuckle. This is
Skylab Control at 22 minutes and 40 seconds after the hour.

END OF TAPE

SL-11 MC-1337/1

Time: 12:24 CDT 29:03:24 GMT
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PAO Skylab Control at 3 hours 24 minutes and 53 seconds Greenwich mean time. We are now approaching the Honeysuckle tracking station's area of coverage and we will stay live for air-to-ground from Honeysuckle. We are approximately 1 minute and a half before we expect acquisition at Honeysuckle.

CC Skylab, Houston through Honeysuckle for about a minute and a half.

CC Skylab, Houston. About 1 minute until LOS. We'll be coming up on Goldstone at 57.

PAO Skylab Control at 3 hours 29 minutes and 51 seconds Greenwich mean time. We have now lost signal at Honeysuckle and expect to acquire again in 26 minutes and 53 seconds at Goldstone in California. That will be our next acquisition of signal 26 minutes and 45 seconds from now. It's now 30 minutes after the hour. This is Skylab Control.

END OF TAPE

SL-II MC-1338/1
Time: 22:54 CDT, 29:03:54 GMT
6/21/73

PAO Skylab Control at 3 hours 54 minutes and 54 seconds Greenwich mean time. We are now 1 minute and 54 seconds from acquisition of signal at Goldstone tracking station in California. This is an extended United States pass, tracking across all three of the continental antennas, one at Goldstone, one at Corpus Christi, Texas and the other at Merritt Island, Florida. And we will remain live for air-to-ground from the United States tracking stations. Skylab, Houston; stateside for about 16

CC
minutes.
CDR Roger. Do you want P00 and ACCEPT?
CC Roger. You can go ahead and give it to us.
It'll be about 4 more minutes over Texas when we uplink the clock sinc.

CDR Okay, that's going to be PET, right?
CC That's affirmative.
CDR Hooray, I got it right.
CDR You've got P00 and ACCEPT now.
CC Okay, sir. And for info, the electrical system looked real good going over the hill there at Honey-suckle, and we've checked out the E-mod and it's okay.

CDR And I'll tell you we're on page S5-8 in that command module systems checklist doing the pre-docking switch first look at the panels checks.

CC Roger, and can we get an update on the SPT and PLT?

PLT Yes, the PLT has just configured - just finished configuring the SPS circuit breaker and how about if you guys verify your command capability?

CC Wilco.
CDR And the SPT is helping me, because he's up to where he should be.

PLT And did you verify ATM command capability, Houston?

CC Negative, sir. Now that you are through, we're going to give it a go.

PLT Okay.
PLT And Henry, what I have not done yet, but I have had it at the appropriate places on back out at the workshop is the heat exchanger fan, OWS heat exchanger fans are still running. I've added the switches to my checklist further down, and I've added the circuit breakers to my checklist further down.

CC Roger. Copy.
CC CDR, Houston. We noticed you got a C&W there. Was that - did you enable 5 Bravo?
CDR Yes, if you remember, both of them are bad.

SL-II MC-1338/2

Time: 22:54 CDT, 29:03:54 GMT
6/21/73

Alfa and Bravo are bad. I think quad A and quad B are bad.
Quad B OFF/SCALE HIGH 300 and we got both of those shut off.

CC

Roger, copy.

CC

CDR, the PT's in, the computer's yours.

CDR

Thank you, sir.

CDR

All right, Houston, are you still there?

CC

Roger. Go ahead.

CDR

I think in this one on page S5-10 panel

377 - I think you want the GLYCOL to RAD SEC valve
to FLOW instead of BYPASS per the new procedure, right?

CC

Stand by 1 on that, Pete.

PLT

Houston, how about either turning the TV
on or let us hit COMMAND RECESS, please.

END OF TAPE

PRIDE REFRIG. LOOP WARMING UP

SC-II MC-1339/1

Time: 23:04 CDT, 29:04:04 GMT
6/21/73

CC

Go ahead and hit command reset.

CC

CDR, Houston. I think that in page 2-42 there of the checklist, we don't do page 5-10 in the CSM Systems Checklist at this time. We catch that a little later down the line, and there we'll configure that system properly.

CDR

That's not what it says in my book - wait, hold it.

CDR

It says - in my book on page 2-42, it says "F5-7, 8, 9, and 11, except panels 4, 230, 201, 98, 12, and 351." You don't want to do page 10, is that what you're telling me?

CC

Roger. Page 10 wasn't in that list. On page 2- - 2-38 your copy - -

CDR

- - it says "Start on F5-1 and configure all panels on F5, 7, 8, 9, and 11 except panels 4, 230, 201, 98, 12, and 351 which are on those pages. (garbled) you should do.

CC

I've got affirmative and the steps that on 510 were accomplished on page 2-38, and we did have a change in there where we went to normal.

CDR

That's right. I've already done it. Just wanted to confirm it.

CC

You're correct.

CC

Skylab, Houston. We've been watching the primary refrigeration loop here pretty closely, and it doesn't seem to be performing properly. In fact, the whole loop seems to be slowly warming up. I wonder if somebody could run down and check panel 611 and check that all the circuit breakers are closed.

SPT

I did that twice; I'll do it again.

CDR

Hey, Houston. I'm getting ready to terminate the O2 purge here a little while, okay?

CC

Roger.

CDR

Thank you.

SPT

Houston, all the circuit breakers on 611 are closed.

CC

Roger. We copy.

CC

And, SPT, for you info, all the ATM command checks were good.

SPT

Roger. Thank you.

CC

Skylab, Houston. We're about 1 minute to LOS. Madrid at 18, with a recorder dump, and CDR, you can go to block.

PAO

Skylab Control at 4 hours, 14 minutes, and 9 seconds Greenwich mean time. We have lost signal at Bermuda tracking station, and expect to acquire again in about 4 minutes at Madrid. During this last pass, the crew was informed that we had discovered a problem with primary coolant loop in the orbital workshop; this is

SC-11 MC-1339/2

Time: 23:04 CDR, 29:04:04, GMT
6/21/73

not the same cooling system that operates the airlock module and the telemetry equipment. Both the coolant loops and the airlock module had given us some trouble with sticking temperature control valves earlier. This is a separate system - system that feeds the food freezers, wardroom freezers, water and urine chillers in the orbital workshop. At this time, it appears the temperature on that orbital workshop primary refrigeration loop or coolant loop had moved up several degrees. Food freezers are still well within the safe range, but should those temperatures continue to come up as they have been, approximately 5 degrees, moving up from about temperatures ranging around 7 or 8 degrees below zero Fahrenheit to 0 to 5 degrees below zero Fahrenheit. If those temperatures do continue to come up, the secondary coolant loop in the orbital workshop will come on line, and the primary one will be shut down automatically by a computer system that does handle that problem. But there is some concern here that there may be a problem; that the crew may have by accident made a mistake in the configuration of controls for the - the coolant loop. So that was the reason that they requested a member of the crew go back down to make a check of that and find out for certain that all controls are set the way they were instructed to set them. That's a very - very small problem, but it's one they would like to remedy before they crew departs. Indication from Commander Conrad was that they are moving along very well, approximately half an hour ahead of the time line at the beginning of this pass. All three of the crew members were in the command module during the pass, and one of them was instructed to go back to the orbital workshop at the other end of the space station to check out that refrigeration loop. This is Skylab Control; we will remain live for air-to-ground from Madrid in approximately 1 minute and 45 seconds. This is Skylab Control remaining live for air-to-ground.

END OF TAPE

CHECKING COOLANT LOOP THINK THE REFRIG. SYSTEM IS
SWITCH PROB.

SL-II HC-1340/1
Time: 23:16 CDT 29:04:16 GMT
6/21/73

CC Skylab, Houston through Madrid 9 minutes.
CDR Roger, Hank. We checked all the freezer doors and that. Everything's latched up secure. The only thing that's different is the SPT has taken out all that frozen urine, and he put some warm hardware in there. But it was just the empty drains and that (garble) wasn't much.

CC Roger. That doesn't seem to be the problem. We're a little puzzled about the thing. Our telemetry seems normal. The valves and everything in the right places, however the loop seems to be warming up.

PLT Okay, I also got a question for you on the configuration of the breakers on panel 613. Regarding the SAL power. All the SAL outlet breakers are open except plus 2 outlet 1. Is that really what we want?

CC Okay. That was one of the changes we uplinked Paul, the configuration there should be all those experiment circuit breakers open except BUS 2, SAL OUTLET 2 minus 2.

PLT Okay, we didn't get it. It didn't show up in the book. I'll change it. You want the one S149 plugged into, right?

CC Say again.

PLT I figured you want the one that S149 is plugged into.

CC That's affirmative.

CDR Hey, Houston, you still there?

CC Roger, for about 3 more minutes.

CDR Well, when we got the television in the rendezvous window, and you can command it on anytime you want to get a check on it. See if you like that new lens. We changed lens.

CC Roger. Our telemetry looked good and for the PLT, we've got your reg adjust settings for you.

PLT What reg adjust settings? I was just marveling at how EGIL figured it all out so it came out exactly right when we unhooked the CSM.

CC I think this is - he's got a failure here and he wants you to adjust BUS 2 clockwise to increase the PCG total 2 by 5 amps.

PLT Okay.

PLT How's that look?

CC Okay. It looks good to us.

PLT Okay.

CC Skylab, Houston, about 30 seconds from LOS, Honeysuckle at 04.

PAO Skylab Control at 4 hours 28 minutes and 26 seconds Greenwich mean time. We have lost signal

SL-II MC-1340-2

Time: 23:16 CDT 29:04:16 GMT

6/21/73

at the Madrid tracking station, and are now out of range of signal for 35 minutes and 43 seconds. During the last pass we did have some problem with the refrigeration primary coolant loop and they are still looking into that here at Mission Control. Flight Controllers believe that it may still be a switch problem rather than anything actually wrong with the line. Temperatures remain very - very well within a safe range, most of the food freezers still around zero degrees, the lowest of them being about 5 degrees below zero Fahrenheit. The refrigeration system is set for a freezer range no higher than minus 10 - I'm sorry, no higher than plus 10 degrees Fahrenheit for long term food storage. That means that they still have a range of about 10 degrees higher to go and should the temperature continue a trend up towards that 10 degree upper limit for temperature on the freezers, the secondary coolant loop would be automatically activated by the control panel of the refrigeration system. This is Skylab Control at 29 minutes and 36 seconds after the hour.

END OF TAPE

LOOP SWITCHED TO SECONDARY MONITOR

SC-11 MC-1342/1

Time: 00:16 CDT, 29:05:16 GMT
6/21/73

PAO The TV period is expected to last about 16 minutes, beginning at about 03:52 a.m. central daylight time. And concluding as the command module passing out of range at 04:07:52 a.m. central daylight time. Following the flyaround, the command module will fire its small reaction control system engines for 23 seconds at 04:40 a.m. central daylight time, and begin moving slowly away from the space station. The astronauts will slow their craft 5 feet per second or about 3 miles per hour, dropping behind the Skylab cluster as they fall into a lower orbit. The maneuver, called separation, begins over the Indian Ocean 2,000 miles south of Madagascar at the nearest point to the Antarctic Continent. The lower orbit will also be a shorter orbit, so the slower-moving command module will pass beneath the space station and move ahead of it. Following separation at 5:05:30 a.m. central daylight time, Friday morning, the main engine, or service propulsion system, will be fired for 10 seconds as the command module flies backward. The brief firing of the powerful SPS engine slows the spacecraft another 264 feet per second, or about 180 miles per hour, driving it out of its nearly circular orbit and into an orbit about 269 miles at its high point, and 104 statute miles at the low point. The orbit shaping maneuver is conducted over the Philippine Sea 600 miles east of Mindanao. The final burn, a 7-second firing of the main engine, slows the command module another 150 feet per second, or 130 miles per hour. This retrofire maneuver is conducted at approximately 8:10:43 a.m. central daylight time over Southeast Asia. The retrofire maneuver guides the phase elapsed time clock, or the PET clock, which is now used to conduct these final activities. Because retrofire calculations change constantly, the PET clock, called the phoney clock by an astronaut earlier tonight, is set and reset to conduct - to conduct retrofire at exactly 20 hours on the PET clock. With other events - in the sequence time to both the phase elapsed time clock and the Greenwich mean time clock used during most of the Skylab mission. The spacecraft - spacecraft begins dropping in towards the atmosphere following retrofire, and reaches 400,000 feet altitude at about 34 minutes after 8:00 a.m. central daylight time. Splashdown is scheduled for 8:50 a.m. central daylight time this morning some 830 miles southwest of San Diego, California. The predicted impact point is 24 degrees 46 minutes north latitude, and 127 degrees 4 minutes west longitude. This is Skylab Control at 19 minutes and 5 seconds after the hour. Our next acquisition of signal 5-1/2 minutes from now at Hawaii. This is Skylab Control at 19 minutes after the hour.

END OF TAPE

SL-II MC-1343/1
Time: 00:22 CDT 29:05:22 GMT
6/22/73

PAO Skylab Control at 5 hours 22 minutes and 59 seconds Greenwich mean time. We are approaching acquisition of signal at Hawaii in approximately 1 minute and 50 seconds. During this pass we should get some additional data on the temperature changes on the secondary coolant loop, which did not appear to be having a particularly beneficial effect at Honeysuckle. They are going to take a look at that and see whether or not they want to go back to the primary loop during this pass. So we'll stay live for air-to-ground from the Hawaii Islands tracking station. This is Skylab Control at 23 minutes 29 seconds after the hour staying live for air-to-ground.

CC Skylab, Houston through Hawaii for 7 minutes. And we have switched back to the primary loop on the refrigeration system.

PLT Roger. How does it look?

CC It doesn't look good to us right now. We're still smoking it over.

CDR Secondary loop look good?

CC Negative. It didn't look good either.

SC Holy Christmas.

SPT Was it something we did during closeout that's not obvious?

CC Not that we can tell. We're thinking of the possibility now that we may have a radiator frozen up.

CC We're in this high Beta now. We're in a situation where the radiators are meeting their coldest temperatures. They're pointed away from the Sun all the time and no albedo from the Earth on them.

CDR Hank, we have (garble)

CC Roger. Copy.

CC And for the PLT, the command checks all turned out good, the AM command checks, and for the CDR, stars 37 and 42 are still good.

PLT Hank, the PLT is holding at the top of page 67.

CC Rog. Copy.

CC PLT, are you down in the experiment area?

PLT No sir. I'm out of the workshop and all lights are out and I'm in the MDA. I can go back down if you want.

PLT What do you need, Hank?

CC Okay, we're just discussing here now, Paul, we decided - we were going to have you switch over to pump 2 on primary loop, but we decided we're going to leave it on pump 1.

PLT Okay.

SL-II MC-1343/2
Time: 00:22 CDT 29:05:22 GMT
6/21/73

CC
Goldstone at 33.

Skylab, Houston. One minute to LOS.

CDR Okay, well, we're going off the comm here
for a minute. We're pulling the umbilical.

PAO Skylab Control at 5 hours 32 minutes
and 37 seconds Greenwich mean time. We have temporarily
lost signal as we pass out of the range of the Hawaiian
Islands tracking station, but expect to acquire
again at Goldstone in California in approximately 23
seconds. We will remain live for air-to-ground and a
call from the spacecraft communicator, Henry Hartsfield.

END OF TAPE

SL-II MC-1344/1
Time: 00:32 CDT, 29:05:32 GMT
6/22/73

CC Skylab, Houston through Goldstone for
9 minutes.
CDR Okay, Houston.
CC Skylab, Houston; about 1 minute to LOS.

Bermuda at 46.
CDR Roger, Houston. We're just about
running 20 minutes ahead, just nice and comfortable.

CC Roger. Copy.
CC CDR, Houston. Just want to fill you
on what we're thinking about - we're considering a 45-degree
pitch maneuver for the SWS to - put the radiator in the Sun
a little bit, and we haven't made our mind whether we want to
do with the SWS or the CSM.

CDR We'd just as soon let you guys have the
SHS.

CC Roger. Copy, and we're about LOS.
PAO Skylab Control at 5 hours 42 minutes
and 53 seconds Greenwich mean time. We have lost signal
for about 3 minutes as we pass out of range near the
Goldstone tracking station and expect to acquire again
at Bermuda. Just as we ended that pass, spacecraft
communicator Henry Hartsfield gave a callup and indicated
that we may be doing an attitude change, a maneuver - a
pitch maneuver of 45 degrees to attempt to point that
radiator on the end of the workshop toward - more toward
the Sun to get a little sunlight on it. There is some
belief over here that the radiator may have frozen up and that
may be the cause for temperature increases. Those temperatures
now as of Goldstone were ranging at about the 4- to 6-degree
area on the freezers. One of the urine freezers is
bit higher at 10 degrees, and that's at the upper limit of the
long-term storage levels. It's desired to keep them below
10 degrees. Most of those now are reading about 4 to 6
degrees. No indication one way or the other whether this
is going to continue or stop. One of the outlet temperatures
has, in fact, come down a bit, and that may be a sign that
it's changing. Inside the orbital workshop, the temperatures
have gone up because of the high Beta angles we mentioned
earlier. It's believed that those Beta angles may, in fact,
have had some effect on the temperature of the radiator because
of the angle of the radiator to the albedo of the earth. That
is to say, the reflected light from the earth may not be shining
as directly on the radiator and for that reason, the radiator
may be colder than usual and may in fact have frozen up some of
the coolant. At least to this point, it appears quite clear
that that's not a serious problem and not likely to have any
effect on the undocking this morning at 3:45 a.m. central
daylight time. Most of the maneuvers can be performed

SL-II MC-1344/2
Time: 00:32 CDT, 29:05:32 GMT
6/22/73

from down here. We do expect that probably at the Canary Islands station or possibly shortly thereafter, we may do an maneuver - 45-degree pitch maneuver, using either the orbital workshop's - the Skylab workshop's TACs gas, that's thruster attitude control system gas, or using - possibly using the command module's engines. Right now, that hasn't been decided and that's still being considered here at Mission Control; they are doing a plan for that attitude control maneuver. It will take some time to get exact data for the maneuver. This is Skylab Control. We will remain live for air-to-ground from Bermuda in approximately 1 minute.

END OF TAPE

REQUEST COMMAND RESET TO NORMAL

SL-II MC-1345/1
Time: 00:45 CDT 29:05:45 GMT
6/22/73

CC
6 minutes.

Skylab, Houston through Bermuda for

CDR

Roger.

CC

trouble selecting antennas from the ground. Could you give us command reset?

Skylab, Houston. We're having a little trouble selecting antennas from the ground. Could you give us command reset?

CDR

back in normal?

Want it left there or you want it

CC

Roger. We'd like to go back to normal. We'll do that.

CDR

CC

trouble with the antennas. Could you tell us the position of your two S-band antenna switches?

Skylab, Houston. We're still having trouble with the antennas. Could you tell us the position of your two S-band antenna switches?

CDR

Okay. They're in op EC and (garble)

CC

Roger. We copy.

CDR

reconfiguring the comm. That may have been part of your problem. S-BAND POWER AMP PHASE MODULATOR X-PONDER 2 FLIGHT BUS breaker was open for awhile. I just closed it again.

I'm still in the process; I just finished reconfiguring the comm. That may have been part of your problem. S-BAND POWER AMP PHASE MODULATOR X-PONDER 2 FLIGHT BUS breaker was open for awhile. I just closed it again.

CC

Roger. Copy.

CC

at 45.

Skylab, Houston; 1 minute to LOS. Canaries

PAO

Skylab Control at 5 hours 53 minutes and 12 seconds Greenwich mean time. We have lost signal at our Bermuda tracking station. About to pick up signal again in 2 minutes at our Canary Island tracking station. We will remain live for air-to-ground at Canary Islands. They're still considering the attitude maneuver. They have checked with the medical people to determine the effect on the food in the freezers at higher temperatures. The medical people indicated that a 10-degree temperature for a 24 hour period would have no adverse effect on the foods. And for that reason they may decide to postpone this attitude maneuver until after the command module has departed from the orbital workshop. That attitude maneuver can, of course, be performed from here at Mission Control. So we still are indefinite about whether the attitude maneuver will or will not be performed. Flight Director Neil Hutchinson indicated that he would prefer not using the command module to perform the maneuver, but of course, it could still be performed by the command module. We are 1 minute from acquisition of signal at Canary Islands, and we will stay live for air-to-ground from Canary.

END OF TAPE

1346

BOU. DECIDES TO GO AHEAD WITH ATTITUDE CHANGE

SL-II MC-1346/1
Time: 00:54 CDT, 29:05:54 GMT
6/22/73

CC
9-1/2 minutes.

SC

CC

SC

CC

Skylab, Houston through Canary for
Roger, Houston. How do you read?
Roger. Reading you loud and clear.
Okay.
Skylab, Houston. We're pretty much
convinced now that we're going to have to do a maneuver to
put that radiator in the Sun and we're still looking at
the possibility of doing it with a CSM. The reason we -
we can't get a handle on the TACS ussage and of course you
know the TACS is critical for us and well, we're still debating
whether to do it with a SWS or the CSM and we should have
a decision on that by Carnarvon.

SC

Well, don't ask me to do it in the next
little bit, man, we got tunnel, drogue, probe, suits, junk. I
can't even move in here right now. You can forget us for at
least an hour 'til we get this command module straightened
out. For us to maneuver, you couldn't ask for a worse time.

CC

Roger. We're taking that into account,
Pete, and we'll be switching over to PET now, all times
are being PET and Honeysuckle will be coming up at 30 PET.
I'll be handing over to Richard now. Keep it in the groove,
and we'll see you in Houston in a couple of days.

CDR

CC

CDR

CC

Roger.

So long.

Thank you for everything, Hank.

Okay. See you guys later.

END OF TAPE

#137

DISCUSSES MANEUVER.

SC-11 MC-1347/1
Time: 01:05 CDT, 29:06:06 GMT
6/22/73

PAO

Skylab Control, I have 6 hours, 6 minutes Greenwich mean time. We have lost signal now over the Canary Islands tracking station. Do not expect to acquire again for 34 minutes, and 13 seconds at which time we'll acquire at Honeysuckle, Australia. Long period of LOS as the spacecraft travels to the southeast across Africa. During this last few moments of Canary Island pass, spacecraft communicator Henry Hartfield talking to commander of the Skylab Mission Charles Pete Conrad indicated that we are now still considering that attitude control system, do believe it will be a necessary control maneuver. We do believe that it will be necessary to do some sort of a maneuver to put the radiator end of the orbital workshop in the Sun, or at least shine some light on it for some period of time probably for 1/2 to 1 revolution above the Earth or approximately 45 minutes and also it's not be determined whether this time, it's not been determined whether that should be done before or after undocking and also it's not be determined whether it will be done by the command module engines or by the TACS gas equipment, that's the thruster attitude control system gas that's used on the Skylab workshop for maneuvering. One of the concerns here, is consumption of TACS gas, thruster attitude control system gas was used quite heavily in the earlier parts of the mission, because thermal control problem. We still do have a more than sufficient supply, approximately half again of what will be required for the completion of the Skylab missions, but because we began with roughly double what was required for the Skylab missions, there is some concern that we're using too much TACS and we would like to conserve as much as possible in case of future difficulties. Because of that, it may be that Commander Conrad will be asked to do the maneuver using the command module engines. A maneuver under consideration right now is a 45 degree pitch down, which is to say the nose of the spacecraft forward end of the spacecraft will be pitched down maneuvering that rear end of spacecraft up into the Sun a little more. Spacecraft remains in sunlight now, all the time, because of what are called high beta angles, that is to say, the angle of the orbit of the spacecraft is such that the Sun is always in line of sight of the spacecraft and it never passes beneath - behind the Earth and out of sight of the Sun. That began at 11:00 a.m. central daylight time on Thursday and continue for about 4 days. Has the advantage of providing electrical launchers - electrical energy to the spacecraft, higher levels than we normally would experience. Normally we spend approximately

SC-II MC-1347/1

Time: 01:05 CDT, 29:06:06 GMT
6/22/73

PAO Skylab Control, I have 6 hours, 6 minutes Greenwich mean time. We have lost signal now over the Canary Islands tracking station. Do not expect to acquire again for 34 minutes and 13 seconds at which time we'll acquire at Honeysuckle, Australia. Long period of LOS as the spacecraft travels to the southeast across Africa. During this last few moments of Canary Island pass, spacecraft communicator Henry Hartfield talking to commander of the Skylab Mission Charles Pete Conrad indicated that we are now still considering that attitude control system, do believe it will be a attitude control maneuver. We do believe that it will be necessary to do some sort of a maneuver to put the radiator end of the orbital workshop in the Sun, or at least shine some light on it for some period of time probably for 1/2 to 1 revolution above the Earth or approximately 45 minutes to 1 hour and a half. At this time, it's not been determined whether that should be done before or after undocking, and also it's not be determined whether it will be done by the command module engines or by the TACS gas equipment, that's the thruster attitude control system gas that's used on the Skylab workshop for maneuvering. One of the concerns here, is consumption of TACS gas, thruster attitude control system gas was used quite heavily in the earlier parts of the mission, because thermal control problem. We still do have a more than sufficient supply, approximately half again of what will be required for the completion of the Skylab missions but because we began with roughly double what was required for the Skylab missions, there is some concern that we're using too much TACS and we would like to conserve as much as possible in case of future difficulties. Because of that, it may be that Commander Conrad will be asked to do the maneuver using the command module engines. A maneuver under consideration right now is a 45 degree pitch down, which is to say the nose of the spacecraft - forward end of the spacecraft will be pitched down maneuvering that rear end of spacecraft up into the Sun a little more. Spacecraft remains in sunlight now, all the time, because of what are called high beta angles, that is to say, the angle of the orbit of the spacecraft is such that the Sun is always in line of sight of the spacecraft and it never passes beneath - behind the Earth and out of sight of the Sun. That began at 11:00 a.m. central daylight time on Thursday and continue for about 4 days. Has the advantage of providing electrical launchers - electrical energy to the spacecraft, higher levels than we normally would experience. Normally we spend approximately

SC-11 MC-1347/2

Time: 01:05 CDT, 29:06:06 GMT

6/22/73

70 percent of the period of revolution in the Sun, and about 30 percent in darkness, that varies because of the precession of both the Earth's axis and precession of the orbit of the spacecraft. So there is - they are not considering the possibility of doing that command module maneuver, to maneuver the entire 100 ton spacecraft in order to point those radiators at the Sun in event the coolant in the radiator is frozen at one point. That's of course, nothing we know for certain at this point. All we do know is the temperature have moved up over the past several hours and the food freezer area and on the primary coolant loop of the orbital workshop. This is to remind you again, this is a distinct coolant loop from the coolant loop in the airlock modules, those coolant loops are used primarily for telemetry systems and for the ATM control and display panel had given us a good deal of trouble earlier primarily because of the stuck valve, stuck temperature control valve in both the primary and the secondary loop. Those airlock module loops are working fairly close to properly, primary loop is now working at proper temperature in the airlock module, the secondary loop is still reading about 1 degree cooler than it is desired. There is some concern that that is not working as desired it should work, it's reading 1 degree lower and appears that the temperature control valve may be stuck 1 degree lower level than desired. Certainly no problem or concern. This OWS primary refrigeration loop the primary refrigeration loop in the workshop which serves the wardroom freezer, urine freezer and food freezer as well as the water chiller and a number of urine chillers, is reading higher temperatures than we normally had experienced. Only 1 of them has reached the upper limit for long term duration mission; that is the urine freezer which is now reading 10.5 degrees. That's well above the desired limit - desired limit and this is a correction - desired limit on the urine freezer is plus 2 degrees rather than plus 10 degrees. Plus 2 degrees is the urine freezers maximum normal temperature reading. The freezer are allowed to read as high as plus 10 degrees. Only the urine freezer has gone up above this desired level. The others are reading in the 5 to 7 degree range, so they are still in the safe levels and not posing any great problems. Medical personnel in the food and nutritional areas were asked what effect the long period of time at 10 degrees might have on the - on the food in those freezers and they did indicate that they would have no effect on the quality of the food at all, that they could go on at a temperature several degrees higher than they are now reading without any difficulty. However, the plus 10 temperature - well, the plus 10 temperature in the freezers would have no adverse effect on the quality of frozen foods, even over extended periods of time. Two experiments -

SC-II MC-1347/3

Time: 01:05 CDT, 29:06:06 GMT
6/22/73

the data from two medical experiments, M071 and M073, which require very precise measurement of gains and losses in water, calcium, nitrogen, and other biochemical constituents during space flights, might be slightly degraded by above normal temperatures and the indication is that plus 10 temperature in the freezer for period of 24 hours might degrade the data from - those two experiments about 1 percent, which means there would be slightly greater error in the data for two of the medical experiments. Very, very slight change even if it should go for 24 hours it now appears that in the next few hours we'll do a maneuver to attempt to warm up those radiators. That again, to repeat, it would not have any effect, even if the temperature was several degrees higher for a long period of time, it would have no effect on the quality of the food in the frozen food freezer in the orbital workshop. This is Skylab Control; our next acquisition of signal 27 minutes and 46 seconds from now. This is Skylab Control at 12 minutes and 40 seconds after the hour.

END OF TAPE

CM WILL MOV. OMS INTO THE ATTITUDE -- NO DANGER TO
FOOD -- NO OTHER OPTIONS DISCUSSED.

SL-II MC-1348/1

Time: 01:31 CDT 29:06:31 GMT
6/22/73

PAO Skylab Control at 6 hours 32 minutes and 4 seconds Greenwich mean time, or 13 hours 21 minutes and 21 seconds phase elapsed time. We are now still 8 minutes from acquisition of signal at the Honeysuckle tracking station in Australia. Here is some update information on the problem on that orbital workshop refrigeration system. The urine freezer, which is now reading about 8 degrees higher, as of the last telemetry data, reading about 8 degrees higher than its planned maximum of plus 2 degrees Fahrenheit, is not in use at this time and will not be required until the beginning of the next manned mission more than a month from now. It was used to store urine for experimental purposes during the mission, but that urine has now been transferred to the command module area and where it's kept in an insulated box. Only one temperature sensor is located in the radiator area of the orbital workshop, where it's believed that there may be a blockage in the flow of coolant to the refrigeration system that serves the food freezers, wardroom freezers, urine freezers, urine chillers, and water chillers in the orbital workshop living area. There is only a single temperature sensor there. That sensor indicates a temperature about 65 degrees above what is called the pour point of coolanol. Coolanol is not a crystalline substance. Doesn't freeze in the same way that water freezes to ice, but it does become a very heavy slushy liquid at about 160 degrees below zero Fahrenheit. That's minus 160 Fahrenheit. The sensor now reads a minus 195 as of the last station, which is still well above the pour point, but would have an effect on reducing the flow of the coolanol. For this reason they are presently here in Mission Control - Flight Director Neil Hutchinson and his team of flight controllers are considering maneuver possibilities to adjust the attitude of the spacecraft, pitching it down 45 degrees to point the radiator toward the Sun and warm the temperature up a bit there. Flight Director Hutchinson indicated that he would prefer to do the maneuver with the orbital workshop's, or with the space station's own TACS system, that's the thruster attitude control system, but at this time, it would be very difficult to generate the amount of data needed on the present attitude control system, the control moment gyros and the associated hardware to make an exact calculation of the thruster attitude control system gas required for that maneuver. Because of this, and because of the desire to control TACS gas, it is quite possible that they may ask Commander Conrad to do the maneuver using the command module engines. At the last pass the

1349

CDR. RELEASING DOCKING LATCHES -

SL-II MC-1349/1

Time: 01:37 CDT, 29:09:37 GMT
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CC Skylab, Houston. We're AOS Honeysuckle for 9 minutes.

CDR Hi, there. We'll all be pressurized doing out suit integrity checks.

CC Roger. Understand, Pete. And we're prepared down here to - we're going to have a quick look at these refrigeration temperatures. We're prepared to command the maneuver here at Honeysuckle - to maneuver the SWS to an attitude about 45 degrees to the Sun. And our big plan is, Pete, is - depending on the temperature response we get when we get to this attitude, we're going to stay here about - at least half a rev. And depending on the temperature response after that half rev, we're going to decide whether to maneuver back, and then have you conduct the planned flyaround. Or, if it's not responding, or we need to stay there for a full rev, we may go ahead and stay in this odd-ball attitude for the full rev and modify the flyaround as necessary to save the refrigeration loop.

CDR Okay.

CC And the maneuver will be - I have the angles on the ball that you'll see at the end of this maneuver. And it's going to be about a 10-minute maneuver time, and I'll let you know when we command it.

CDR Okay, well, nobody can write anything down right at the moment.

CC Okay, no problem. When - if you want them, and when you do, I've got them.

CDR And the good SPT wants you to be reminded that he put undocked gains in the ATM DC.

CC Roger. We know that. Thank you much for the reminder.

CDR Okay. Just trying to keep you honest like you keep us honest.

CC Yes sir, and thank you.

PLT Say, Richard, you got time for a stowage change?

CC Affirmative. Go ahead.

PLT Okay, on close-out, I was supposed to put the closeout camera - the Nikon in M151, I think. Wasn't really room for it in there. It is now stowed in M158.

CC Okay, I got that. Thank you, Paul.

CC Skylab, Houston. Be advised with the maneuvers in work, and we've commanded it to start.

CDR Okay. Why don't you tell me the gimbal angles?

CC Okay. Roll 276, pitch 312, yaw 311. And there may be a very slight variation in that due to a slight uncertainty in use of Z.

SL-II MC-1349/2

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CDR
at the time.

CC Roger.
CC And also, Skylab; Houston. We've still
got 5 minutes here at Honeysuckle. Anytime you get a chance
here at Honeysuckle, or at Hawaii we're - I'm ready to copy
the P52 data.

CDR Coming at you. 37 44 4 balls 1 plus 00120
minus 00218 minus 00101. The time 13:13 35:00 Peter, Echo,
Tango time.

CC Roger. Got it, Pete. Thank you much.

END OF TAPE

SL-II MC-1350/1

Time: 01:47 CDT, 29:06:47 GMT

6/22/73

CC Skylab, Houston. We're about 1 minute from LOS. We're going to see you at Hawaii at about 13:50. The maneuver's about halfway complete, and we can begin to see the temps coming up on the radiator. And I'll let you know, when we get to Hawaii again, how we're doing there.

CDR Okay, you see any improvement in the refrigeration loop?

CC Pate, we don't expect to see any in the loop itself until we can throw out whatever blockage is in the radiator, so the first thing to do is make sure that those temps are coming up, and they are.

CDR Okay. Good enough.

CC Roger.

PAO Skylab Control at 6 hours 50 minutes and 20 seconds Greenwich mean time; 13:39:35 phase elapsed time. At the present time we're about 1 hour and 54 minutes from the undocking procedure, beginning the undocking at 3:45 a.m. central daylight time. That is expected to go off on schedule. There is no question in the mind of the present Flight Director, Neil Hutchinson, that that should go on. Flight Director Phil Shaffer, who is on with his team as well, to conduct command module operations, is expected to continue those procedures as scheduled, despite the problem with the primary refrigerant loop in the orbital workshop. The flight directors are confident they can handle that problem without the use of the crew there, and they will be departing on schedule, as least as it looks now. During this last pass over Honey-suckle, the crew indicated that they were - had pressurized and were doing suit integrity checks. That shows that they're moving right along on the time line and certainly are not falling behind. During this maneuver, beginning at 06:43:20 - during this last pass at 06:43:20, or 02:43:20 central daylight time - I'm sorry, at 01:43:20 central daylight time, the spacecraft attitude change was begun using TACS gas. The decision here was that the command module occupants were too occupied with their - with their work to take time to maneuver the spacecraft using the command modules' jets. TACS usage is still a matter of concern, but because there is a - more than sufficient supply, most of the total TACS supply was used before the manned mission began. At the beginning of the manned mission 44.4 percent remained; as of this morning, about 43.3 percent remaining. We've only used about 1.1 percent of the total supply in the past month. A lot of that was used because of the problems with docking at the beginning of this manned mission. So it's concern - no concern right now that we are getting close to the redline

SL-II MC-1350/2

Time: 01:47 CDT, 29:06:47 GMT

6/22/73

on thruster attitude control system gas. For that reason they did do that maneuver using the TACS system. The immediate effect of that maneuver is quite clear from the displays here in Mission Control. The orbital workshop primary refrigerant - refrigerant tabulation shows that a - increase in temperature so far of about 12 degrees - 12-1/2 degrees, has occurred in that radiator surface temperature. And I'd like to make a correction on something given out earlier. That sensor now reads 57 degrees. It was reading approximately 69 at its - at its coldest point, and it - and that is approximately 95 degrees - I'm sorry, that's approximately 90 degrees lower than its - than its poor point, or its period of maximum slushiness. The information given out earlier was a reversible of those figures, indicating a temperature of 65 - a minus 65 degrees, and a - a 95 degrees difference. So, to correct that, the present temperature of that coolant fluid is about 57 degrees. It came down from 69 minus - it's now minus 57 degrees. That's a rise in temperature from the minus 69 degrees that we had seen at the beginning of Honeysuckle. So the coolant is warming up - warmed up about 12 degrees during that - beginning at that attitude maneuver, which would be completed after the Honeysuckle pass was over. It is now approximately 100 degrees above the temperature at which the coolant does not pour well. The maneuver again began at 06:43:20 Greenwich mean time. And that maneuver is to pitch the spacecraft 45 degrees, nose down, to bring the radiator area of the orbital workshop into the Sun for a short period of time, probably lasting from 45 minutes to an hour and a half. At the beginning of this Hawaii pass we should have an idea of the immediate effect of that. It has had an effect - not a necessarily a desirable one, a short-term immediate effect in the area of the wardroom freezers, and in the food freezers. Those temperatures did move up, they were moving up, however, before that. They are now reading in the neighborhood of 7 to 10 degrees. Several of them reading 8 and - one of them reading 8, one of them reading 9 degrees. On one of the wardroom freezers - not a matter of concern - not presently in use, is reading above the 10 degree limit which is set for normal operations. As was indicated earlier, a temperature at 10 degrees can be sustained for 24 hours with no adverse effects whatsoever to the food. It would have a degrading effect on one of the - on two - on a pair of experimental data - data that's from M073 and M071, two medical experiments, to determine precise constituents of the body. If - if those food is - food in the freezer should remain at a 10-degree temperature for a 24-hour period, it would have a slight - about 1 percent degradation of the

SL-II MC-1350/3

Time: 01:47 CDT, 29:06:47 GMT
6/22/73

data for those two experiments. Certainly no concern in terms of a long-term Skylab mission, although a very slight change would occur in the data available from two medical experiments. So we expect at Honey - at Hawaii we should get some additional information on the effect of that attitude maneuver attempting to warm up the coolant in the radiator, which is used to release heat from the spacecraft into space. This is Skylab Control. We're presently 4 minutes and 45 seconds from acquisition of signal at Hawaii. We'll remain live for air-to-ground from Hawaii.

END OF TAPE

#1351

ALL 12 DOCKING LATCHES UNDONE. REFRIG. PROB. NOT
SOLVED.

SC-II MC-1351/1
Time: 01:56 CDT, 29:06:56 GMT
6/22/73

CC Skylab, Houston. Hawaii for 9 minutes.
CDR Roger, Houston. Be advised that all
12 docking latches are undone, tunnel hatch is installed,
and we have a DELTA B at 2.6 at 6 minutes and it's still
going down.

CC Roger, CDR. Copy.
CDR And on the DSKY and the present
angle for the vehicle, it looks like you know where it
is pretty good, I'm showing 27662, 31380, 31061.

CC Roger. Copy.
CC And Skylab, Houston. Be advised we've
had a couple of minutes here to look at the refrigeration
system data. The radiator temperatures are coming up as
we expected, apparently that old problem isn't solved yet,
because we still have a (garble) DELTA P that's not where it
should be, but the basic purpose of the maneuver is being,
as we expected, is to get the radiator temps up first and that's
happening and I'll keep you posted.

CDR Okay, thank you.
CC Skylab, Houston. Since we uplinked
the teleprinter pads - are the pads to you on the teleprinter
earlier today and we did on each of those pads had double numbers
on them, it's your choice as to whether you'd like to read them
back for - to make sure that you got them correctly. If you
would like to, we still got 5 minutes here at Hawaii and
we got a stateside pass coming up so just let us know.

CDR No, they're - they're all good. I copied
them in the book, I understand all of them.
CC Okay, Pete. I've also copied them into
my book and FIDO has checked them again and as of now there GO.
CDR All right. I haven't configured the
DAP yet, but I will.

CC Roger.
CC And CDR, Houston. We don't think there's
any particular hurry for you to reconfigure the DAP, as a
matter of fact, until we kind of find out where we are,
with respect to this refrigeration system problem.

CDR I understand and we'll be happy to
maneuver for you if we have a free moment.

CC Okay.
CDR Right now, we're pretty busy.
CC Okay.

END OF TAPE

SL-II MC-1352/1
Time: 02:07 CDT 29:07:07 GMT
6/22/73

CC Skylab, Houston. We're about 30 seconds
from LOS. We'll see you at Goldstone at 14:01.
CDR Roger. 14:01.
CC Skylab, Houston. AOS Goldstone for 6
minutes. Request ACCEPT. We're going to up-link that
state vector gyro compensations and a PIPA bias for you here.
CDR Okay, you got it.
CC Thank you.
CDR You still there, Houston?
CC That's affirmative, Pete. We got about a
minute left before LOS here at Goldstone. Go ahead.
CDR No, I was just watching the up-link, and
it didn't look like much was going on, and I wondered whether
you got it all in.
CC Stand by 1.
CC CDR, Houston. Negative. We're not
through up-linking. We're still doing the PIPA bias update.
For your information, we think we probably will be coming
out of this SWS maneuver attitude probably at
Bermuda, which is coming up AOS at 14:12. We'll look at
the data there before making a final decision, and the
maneuver time that we think that we'll be using is 15
minutes.
CDR Okay. I just completed the EMS checks.
Entry checks are okay. The null bias is now plus 1 foot
per second for 1 minute and 40 seconds.
CC Roger. Copy.

END OF TAPE

SC-II MC-1353/1
Time: 02:19 CDT, 29:07:19 GMT
6/22/73

CC Skylab, Houston AOS Bermuda 9 minutes.
CDR Roger, Houston. Be advised we have
a good tunnel and it's vented.
CC Real good, Pete. Thank you.
CC Skylab, Houston. Everything is loaded
up there, you can go back to block, thank you.
CDR I still show an uplink activity light
on and a bunch of stuff in the DSKY.
CC Stand by.
CC Skylab, Houston. Good catch, we were
hand loading all those commands which was one reason
they were going so slow and we made one error on the ground,
thank you much. You can go back to block now.
CDR That is a good load I got in there,
210102741456.
CC That's affirmative, Pete. That's a
good load.
CDR Okay.
CC Skylab, Houston. We still have about
5 minutes in the pass here at Bermuda, be advised we made
the decision that we're going to remain in this attitude
until the Ascension pass and we're going to come out of the
maneuver and back to the fly-around attitude at Ascension.
We'll use a 15-minute maneuver time and this will put
you in an attitude in time to undock and do the fly-around
as planned.
CDR Very good. Has that salvaged your
refrigeration system?
CC Well, I tell you Pete, the numbers tell
us that it's - we hope it's heading in the proper direction, but
we won't know for sure until we get back in solar inertial.
So we really aren't sure yet, but it looks encouraging.
CDR Okay. I hope so.
CC Me too.
CDR Houston, are you there?
CC Affirmative, go ahead.
CDR You want us to hold the P52 until 15:03 or
do you want us to go ahead with it now?
CC Well, we were just talking about
that, hang on a second.
CC CDR, Houston. We think it is okay, if
you want to, to go ahead and do the P52 now. The stars that
you ought to use are stars 1 and 2 in this attitude but be
advised you should delay the GDC align naturally until we
get back into the fly-around attitude.
CDR Yes, I understand.
CC Roger.
CDR Hey, Houston are you there?
CC Affirmative, we've got 1 minute left,
go ahead.

END OF TAPE

SL-II MC-1354/1
Time: 02:31 CDT 29:07:31 GMT
6/22/73

CDR Hey, Houston. Are you there?
CC Affirmative. We got 1 minute left.

Go ahead.
CDR Okay. Now you had to scratch out this RCS
thrusting prep, but you are going to have an RCS hot fire.
I guess I'm not exactly sure of what we're doing I guess we're
doing an RCS hot fire on the quads rather than on the PSM,
is that what it is?
CC That's affirm, Pete. That is what we're
doing.
CDR Okay.
CDR And where did you want to do the RCS
hot fire?
CC Stand by.
CC CDR, Houston. We plan to watch the
hot fire at - hot fire at Carnarvon at 15:02. (Laughter)
CDR Carnarvon at 15:02. All right. We'll
have a (garble) fire for you.
CC Rog.
PAO This is Skylab Control at 7 hours 33
minutes Greenwich mean time. Bermuda has LOS. Canaries
will pick up in about a minute. There's overlapping cov-
erage at Ascension. We'll start the maneuver back to solar
inertial at Ascension. Temperatures on the radiator have
come up considerably while the spacecraft has been in this
pitched attitude, come up about 65 degrees, and we're down
about minus 85 degrees at Carnarvon, the last pass. Bermuda
they were down to about minus 20 degrees. Astronaut Dick
Truly is the CAP COMM now. And it appears we will start
the maneuver at the Canaries now. And we have acquisition
of signal through Canaries. We'll stand by.
CC Skylab, Houston. We're AOS Canary and
Ascension for 15 minutes and be advised we've started the
maneuver back to solar inertial.
CDR All righty. And let me give you our
P-52. Star 01, Star 02, 5 balls plus 00037, minus 00064,
minus 00040, the time 14230000. And then Dick, let me
verify a few things with you. I'll read you some pads, just
a second.
CC Okay.
CDR Okay, lets verify the sep pad. I have
SEP 01629 1300 minus C050 all zips, all zips, now 22 181
011359, N/A 0023, N/A, N/A, N/A, 2A151 plus 01, excuse me,
plus 077, minus 003 and - it's a plus 003.
CC Roger. With that plus that's a good
readback, Pete on the sep pad.
CDR Okay, let's try shaping. 016 54 4300
255 - minus 2558 plus 0000 plus 0653 359 198 000 2492 0010

SL-II MC-1354/2

Time: 02:31 CDT 29:07:31 GMT
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3030 144 2815 plus 077 plus 003 and that's it for that.

CC And that's a good read-back on the
shape pad.

CDR AN retro 09 59 5970 minus 184.5 plus
all balls plus 0455 000180 000 1750 0007 0400 14 4 27420
plus 078 minus 009 CMRCS (garble) are HP is equal to 44
nautical miles.

CC And that's a good read-back on the
retrofire pad.

CDR And let's try entry. Area 5615 Golf
041 plus 2477 minus 12707 11659 25980 2526 2600 minus 03064
roll right 55 55 3040 2547 2926 3333. One target north
of ground track, 2- lift vector up, 3- pitch for (garble)
61 degrees.

CC Roger, Pete. Good read-back on all the
pads.

END OF TAPE

SC-II MC-1355/1

Time: 02:38 CDT, 29:07:38 GMT

6/22/73

CC Roger, Pete. Good reading back on all the pads.

CC Skylab, Houston. We don't see the VHF on yet, and we think it probably should have been configured on - on page 2-81 of the Deactivation Checklist, which would have led you to page 5-5, I think of the Systems Checklist, CSM Systems Checklist.

CDR That's a sneaky way to get there.

CC Skylab, Houston. On this maneuver back to solar inertial attitude, we are spending a little TACS, and it is conceivable that we might get the CMG auto reset, just to let you - be advised no action required and no particular concern.

CDR Okay. How soon are we going to be back in attitude?

CC Stand by 1.

CC Skylab, Houston. We've got 1 minute left in the maneuver. Pete? (garble)

CC And, Skylab, as we go over the hill, we'll see you at Carnarvon at 15:07.

CDR Okay, and all you want to do is fire the jets that are turned on presently, that right? I can't really decipher much out of this thing.

CC Well, CDR, if we can't let you know here, but I'll have a good description of it when we come AOS at Carnarvon.

CDR Okay.

PAO This is Skylab Control at 7 hours, 51 minutes Greenwich mean time. Ascension has had loss of signal just as the maneuver back to solar inertial attitude was being completed by the orbital assembly. We'll take a look at that refrigerant loop over the next station or two and see how well that maneuver helped the problem. Next station to acquire will be Carnarvon in about 21-1/2 minutes. Crew is using phase elapsed time or PET for their entry activities; 20 hours of PET equals retrofire. This is a time system that can be updated and adjusted without affecting the Greenwich mean time we're at 14 hours, 41 minutes phase elapsed time at the present time. Undocking scheduled in about 52-1/2 minutes. That will take place out of contact with ground station. Undocking scheduled between Guam and Goldstone on this revolution. Undocking time still scheduled for 8 hours 45 minutes Greenwich mean time, or 3:45 a.m. central daylight time. We'll come back up prior to acquisition at Carnarvon. At 7 hours 53 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SC-11 MC-1356/1

Time: 03:10 CDT, 29:08:10 GMT

6/22/73

PAO This is Skylab Control at 8 hours
11 minutes Greenwich mean time. Skylab coming up within
range of the Carnarvon station very shortly. We'll stand by.
CC Skylab, Houston. AOS Carnarvon for
8 minutes.
CDR Hi there, Carnarvon. How are you?
CC Just fine, sir, and you?
CDR Okay. I think I got this thing figured
out, if you guys are happy.
CC Roger, Pete. We are, we want to look
at the SWS attitude control system real carefully before we
do the hot fire check and also want to make sure we got our
backroom recorders all turned up to (garble) before we give
you a GO to do the check.
CDR Yes, all you're going to see is 4 thrusters,
right; 2 pitch, and 2 yaws, right?
CC That's affirmative.
CDR And it's going to mid-impulse, right?
CC That's affirmative.
CDR Yea. I figured it out by myself.
CC And, CDR; Houston. We're not going to
start the heat - hot fire check here right now; we're going
to work with the SWS and make sure the attitude control
system is squared away.
CDR Okay, what do you want to do? Do it
at Guam?
CC No we - no we haven't given up doing
it here in Carnarvon but we're just standing by at the
moment.
CDR Okay. Can I go VERB 46 and get all
primed and ready that so when you want it, I can give it to you?
CC That's affirmative, Pete. Go ahead.
CC Skylab, Houston. Be advised we're not
going to be able to do the hot fire check here at Carnarvon.
We're going to do a nominal age gage to improve our momentum
position so we can stop using the TACS and we will try to pick
it up at Guam.
CDR Okay. Now are my - I've aligned by GDC
to the undock attitude. Is that good or not?
CC Stand by.
CC CDR, Houston. The GDC should be aligned to
213.510 and zero for a pen and ink on page 2-85.
CDR That's right. I want to know if that's
good attitude right now; I'd like to realign it again.
CC That's affirmative, Pete. That is good
attitude.
CDR Thank you. Okay, you guys interested in
my 4 hours 52 minutes GDC drift check?
CC Of course we are Pete, go ahead.
CDR Okay, I started on a Greenwich mean time
of 03:07, at least I assume that's what you had in the

SC-II MC-1356/2

Time: 03:10 CDT, 29:08:10 GMT
6/22/73

computer for awhile. As best as I can decipher it, I stop it at 07:59, which comes out to 4 hours and 52 minutes. And now 20 - was 286 22 32223 35205, and the thumbwheels wound up at 2755, 3518, and 3586, which isn't too bad.

CC Roger, Pete. Copy.
CDR And in sec, coolant loop pump is on

AC2.

CC Roger. And, CDR; Houston. Nominal H cage has been commanded.

CDR Okay.

CC Skylab, Houston. On the electrical power system, we would appreciate if you would configure descent battery 2 on Main A. The reason is descent batt 1 is getting a little warm and we're trying to manage the temperatures a little bit. We do want to leave - we do want to leave batt 1 still on Main A also.

CDR How's that?

CC Roger.

CC Skylab, Houston. We're about 1 minute from LOS. We're going to see you at Guam at 15:17, and be advised that total attitude excursion of this maneuver about 40 degrees, 40 degrees.

END OF TAPE

SL-II MC-1357/1

Time: 03:21 CDT 29:08:21 GMT
6/22/73

PAO This is Skylab Control at 8 hours 23 minutes Greenwich mean time. Skylab out of range of the Carnarvon station now. Guam will pick up Skylab in about 4-1/2 minutes. The hot fire check of the service module reaction control system has been delayed to allow the Saturn workshop to settle down in a stable attitude. Anticipate now that that check of the RCS will take place over the Guam station. The flight director was informed a few minutes ago that it still was too early to tell about the refrigerant loops. It could be several hours yet before enough information is available to determine how effective the pitch maneuver was to put the radiators in the Sun. The workshop now back in solar inertial attitude, but not yet quite settled down after maneuvering back from that pitch maneuver. Undocking scheduled to take place after a loss of signal at Guam and before Goldstone acquires. The command module flyaround will take place immediately after undocking, and when we acquire at Goldstone in about 26-1/2 minutes from this time, we should get live television during the flyaround. We're about 2 minutes away from acquisition at Guam. We'll continue to stay up live.

END OF TAPE

#135 8

SCRUB HOT FIRE CHECK _ RATE CYRO FAILURES _ DON'T
UNDOCK TILL GDS.

SL-II MC-1358/1

Time: 03:26 CDT, 29:08:26 GMT

6/22/73

CC Skylab, Houston; AOS Guam 5 minutes.
CDR Roger, Houston.
CC And, Pete, we're still looking at attitude control system to see if we can get it squared away in time to get the check done. In the event that we can't get it squared away in time, we'll just skip hot fire check.

CDR Okay.
CC Skylab, Houston. Be advised we're going to scrub the hot fire check. We're having some problems with the rate gyros in the SWS, so we're just not going to do it this pass.

CDR Okay.
CC Skylab, Houston. We're about 30 seconds from LOS. We're going to be at Goldstone at 15:41. We are unable to give you a GO for undocking because we have not gotten the SWS into ATT HOLD CMG due to (garble) rate gyro failures. And, we're getting - trying to get configured - we will get configured at AOS Goldstone as soon as possible and give you a GO for undocking there.

CDR You do not want us to undock at 34. Is that what you're telling me?

CC That's affirmative, Pete.
PAO This is Skylab Control at 8 hours 35 minutes Greenwich mean time. Crew has a NO GO for undocking at the nominal time. The Saturn workshop not yet settled down into proper attitude. The Saturn workshop not yet settled down States now, after acquisition at Goldstone. Here on the ground the controllers want to take another look at the attitudes prior to giving a GO for undocking. We're 15-1/2 minutes away from acquisition at Goldstone. We'll come back up just prior to that pass. At 8 hours 36 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1359/1

Time: 09:47 CDT 29:08:47 GMT
6/22/73

PAO This is Skylab Control at 8 hours 48 minutes Greenwich mean time. Skylab is a few minutes away from acquisition at Goldstone, where another GO/NO GO status check will be taken for undocking. Undocking has been delayed because the Saturn workshop attitude has not yet settled down. Several hours ago it became apparent the refrigerant loop radiators on the workshop were getting too cold, were approaching a temperature at which they could freeze. It's believed, but not fully known at this time that the high Beta angle has something to do with this problem. The space station is in 100 percent sunlight, however the Sun is so high that it does not shine on the radiators as it normally does at lower Beta angles. So the assembly was pitched 45 degrees down to put the radiators into the Sun and then over Canaries on this revolution the space station was maneuvered back to the solar inertial attitude; however at loss of signal at Guam, the orbital assembly had not yet stabilized and a decision was made not to undock at the regular time. We should be acquiring at Goldstone within about the next minute. We'll stand by for conversation there.

PAO Television coming in now.
CC Skylab, Houston. We're AOS Goldstone.
Be advised we've got three commands to get into the burn: Y-2 drift update, get Y-2 into the control loop, and then command into ATT HOLD CMG, and then you'll get a a GO for undocking.

CDR Roger. We're standing by.
CC Roger, and we got good television, Pete.
CDR Okay.
CC Incidentally, Pete, in our estimation, we think probably if we can't get you off here at Goldstone or very shortly, that probably you will have time to get around on a complete flyaround, if you concur.

CDR Roger. Wilco.
CC Roger.
CDR We haven't done anything by the flight plan yet, so we'll go by ear again.

CC Roger that.
CC Skylab, Houston. We're in ATT HOLD CMG. You're GO for undocking.

CDR Okay. Stand by.
CC Roger.
CDR Okay, we're free. We got 4/10 of a foot per second, Houston.

CC Roger.
CDR Bye-bye, Skylab.

END OF TAPE

SL-II MC-1360/1
Time: 03:55 CDT, 29:08:55 GMT
6/22/73

PLT Houston, that TV just isn't working well
on peak.
CC Roger. Suggest you try average. We're
about 40 seconds away from about a 1-minute dropout between
Goldstone and Texas and that television did look a little
bit better when you changed it.
PAO Skylab Control. We've had loss of signal
at Goldstone. Texas will pick up very shortly. Command and
service module now undocked - undocking at 8 hours 55 minutes
Greenwich mean time. And we're at Texas.
CC Skylab, Houston. We're AOS again at Texas
and we got you for the next 12 minutes and we got a picture.
CC Skylab, Houston. We believe we'd like
to try peak again on the TV and take a look at that.
PLT I'm ahead of you again.
CC I know. You got our loop up there again.
This is quite a sight to all us guys on the ground who
haven't seen it yet.
CC And, PLT, Houston. I guess peak is just
too much. Like to return to average.
PLT Yes, that's peak at f/16.
PAO This is Skylab Control. Those landing
gear-like extensions are the dipole antennas.

END OF TAPE

SL-11 MC-1361/1

Time: 04:04 CDT, 29:09:04 GMT

6/22/73

CC PLT, Houston. Another suggestion is go
back to peak on television and open up the f-stop wide open.
And if that doesn't work we'll come back to where we are.
PLT Yeah, it's in now, Dick.
CC Roger. I understand the f-stop's wide
open now. Is that right?
PLT That's right.
CC Roger, Paul. I guess we'll go back to
where we were. Still can't get a heck of a lot of detail.
PLT Okay.
PLT Did y'all turn the TV off?
CC Skylab, Houston, affirmative. We had
LOS at Mila. So, just a reminder, you can go ahead
to S-band AUX TV to OFF and f-stop to fully closed.
PAO This is Skylab Control. We're still in
acquisition through Bermuda. However, no television capability
through that station. About another minute and a half,
acquisition at Bermuda.
CC Skylab, Houston we're 45 seconds from
LOS. We'll see you a Ascension at 16:09.
PLT Roger, Dick.
PAO This is Skylab Control at 9 hours 11
minutes Greenwich mean time. Bermuda has loss of signal.
When we lost the television picture at the Merritt Island
station, command and service module was about a quarter of
the way through its flyaround. It moved above and over the
Saturn workshop. Undocking was about 13 minutes late
and we estimate that Pete Conrad has picked up about 3 min-
utes on the flyaround time line since undocking, however.
The separation maneuver still scheduled at the normal time,
Greenwich mean time of 9 hours 40 minutes, or 4:40 a.m. central
daylight time. That is just over 27 minutes from now. Canary
Island station - no - no, the next acquisition will be
Ascension in about 6-1/2 minutes. At 9 hours 13 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1362/1
Time: 04:17 CDT 29:09:17 GMT
6/22/73

PAO This is Skylab Control at 9 hours 17
minutes Greenwich mean time. Coming up on acquisition
through Ascension now. We'll stand by.
CC Skylab, Houston. AOS Ascension for 5
minutes.

CDR Roger, Houston.
PAO This is Skylab Control. The command
and service module flight controllers are taking a good
look at the systems on that vehicle. The GO/NO GO decision
for separation will be made here at the Ascension station.
CC Skylab, Houston; we're about a minute
from LOS. We're going to see you at Carnarvon at 16:39.
The controllers have looked at the CSM, and it looks real
good. You're GO for a separation. And in the event you
guys are getting warm, when you get a reasonable distance
away from the SWS, it's okay to activate the evaporators.

CDR Roger, Houston.
PAO This is Skylab Control at 9 hours 25
minutes Greenwich mean time. Ascension has loss of signal.
Carnarvon will pick up the spacecraft in about 24 minutes.
A GO has been given for the separation maneuver. That's
scheduled to take place 13 minutes 40 seconds from this
time, while the spacecraft is over the Indian Ocean. That's
a 5 feet per second maneuver using the service module re-
action control system. The duration of the burn 23 seconds.
Greenwich mean time of that maneuver is 9 hours 40 minutes.
This maneuver will put the command and service module in a
slightly lower orbit than the space station, and the CSM
will gradually move ahead of the Saturn workshop. We'll
come back up just prior to Carnarvon. At 9 hours 27 minutes,
this is Skylab Control.

END OF TAPE

SL-II MC-1363/1

Time: 04:48 CDT. 29:09:48 GMT
6/22/73

PAO This is Skylab Control at 9 hours 48 minutes Greenwich mean time. Spacecraft's coming up on acquisition at Carnarvon very shortly. Separation maneuver should have been performed. And we're about 17 minutes away from the shaping maneuver, the first of two burns on the big service propulsion system engine. This shaping maneuver will take place while we have acquisition through Guam, shortly after AOS at Guam. We'll stand by for the Carnarvon pass.

CC Skylab, Houston. AOS Carnarvon for 11 minutes, and standing by for your sep burn status.

CDR Burn on time, 5 feet per second. Negative.

CC Roger.

PAO That report by Pete Conrad says the separation burn went exactly as planned.

CC Skylab, Houston. We got about 10 minutes here at this pass. I'm not sure how busy you guys are. I have one little checklist change to make on page 5-4, about descent batt 2, that I'd just as soon get out of the way while - and get ahead, anytime you guys get a chance.

PLT Which book, Dick?

CC Entry, Paul.

PLT Okay, go ahead.

CC Entry book page 5-4 - right after the last line it says "abort system propellant RCS command verify." Just add, take descent batt number 2 off main A, and this is the one we just had you put on, and the reason is to give it a few minutes to be conditioned prior to separation.

PLT Understand.

CC Roger.

CC Skylab, Houston. We've looked at the bird. It looks real good to us. You're GO for the SPS-1 shaping burn, and a reminder, after the shaping burn, we'll be watching it at Guam, and when it's complete, we'll be configured to watch you do to logic sequence check.

CDR Okay.

CC Skylab, Houston. We're going LOS. See you at Guam at 16:53.

PAO This is Skylab Control at 10 hours 1 minute Greenwich mean time. Carnarvon has had loss of signal. Guam will acquire in about 2 minutes. And we're 4 minutes 10 seconds away from the shaping maneuver. This is the one entry maneuver that will be performed over tracking station. Shaping maneuver is designed to take the spacecraft out of a near-circular orbit into an elliptical orbit approximately 90 by 236 nautical miles. That's about 104 by 269 statute miles. We should be acquiring at Guam shortly, and we'll stand by for that shaping maneuver.

END OF TAPE

SL-II MC-1364/1

Time: 05:02 CDT 29:10:02 GMT

6/22/73

PAO - Greenwich mean time, the maneuver is
10 hours 5 minutes 30 seconds.
CC Skylab, Houston. Standing by at Guam
for 9 minutes.
CDR Roger, Houston. We're in the final
count for the burn. Everything looks good.
CC Roger, Pete. We're looking at the
data, looks good to us too.
CDR (garble) all the horizon checks. Every-
thing looks fine.
CC Roger.
PAO This will be a 10-second burn of the
service propulsion system. Delta V or change in velocity
of 264 feet per second.
PAO We see ignition.
PAO The burn looked good here. We'll stand
by for a crew report.
CC Skylab, Houston. We watched the burn
on the data and we got everything but the Delta V counter.
CDR I had 14.1.
CC Thank you, Pete.
CC And CDR, Houston. Be advised we're
configuring on the ground to look at the logic sequence
checks whenever you get secured from the burn. We still
got about 5 minutes left here at Guam.
CDR Okay.
CDR Okay, we're ready to give you the
logic sequence, SEQ logic.
CC Roger.
CC Roger, Pete. We're ready on the ground
for your cleared SEQ logic 2, I'm on UP.
CDR There they are. On UP.
CC Stand by.
CC Skylab, Houston. It looks good. You're
GO for power alarm.
CDR Roger, Houston.
CC Skylab, Houston. One minute to LOS.
Goldstone at 17:20.
CDR See you then.
CC Roger.
PAO This is Skylab Control at 10 hours
14 minutes Greenwich mean time. Guam has loss of signal.
Next station to acquire will be Goldstone in about 16
minutes. The command and service module shaping maneuver
was performed right at the start of this Guam pass. It
was a successful maneuver, a good burn. That's the first
step in the deorbit procedure. One more maneuver remaining

SL-II MC-1364/2
Time: 05:02 CDT 29:10:02 GMT
6/22/73

the retrofire burn of the big service propulsion system engine. We're 2 hours and 55 minutes away from that maneuver. We'll come back up prior to the Goldstone acquisition. At 10 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1365/1

Time: 05:20 CDT, 29:10:20 GMT

6/22/73

PAO This is Skylab Control at 10 hours 21 minutes Greenwich mean time. In the control center there is a shift handover taking place for the Saturn workshop flight controller teams. Flight Director Neil Hutchinson and his team being relieved by Flight Director Milt Windler and his team. Neil Hutchinson will have a change-of-shift news conference in the Johnson Space Center news briefing room, approximately 5:30 a.m. central daylight time. Change-of-shift news conference with Flight Director Neil Hutchinson at approximately 5:30 a.m. central daylight time in the Johnson Space Center news briefing room. Flight Director Bill Shaffer will continue here as the command and service module flight director with a separate team of flight controllers. CAP COMM is Astronaut Dick Truly. At 10 hours 22 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-439/2

Time: 15:53 CDT, 9:20:53 GMT
6/2/73

television out of the way, hand holding it. We had a TV camera failure, and we'll check that out some more and report to you later, but it looks like one of our cameras went belly up. The stowage did not permit doing the TV the way it was supposed to be done. But I think we got you some good TV, also some blank tape.

CC We copy.

SPT And if you've got no more messages, I'd like to say a couple of words about the attempted 192 alignment, Bill.

CC Go ahead.

SPT Okay, this time we'll have two operators here. I won't tell you which one. Just to keep things evened up. The - -

CC Hey, you fellows aren't celebrating Pete's birthday already are you?

SPT There's some things that - we're laughing to keep from crying is what it is if you really want to know down there.

CC We copy.

SPT Okay, anyway we started out pretty good and this other operator tweaked it out of focus a little bit and overshot and said he would come back and get an even better in which case bolted it again and pulled it into zero, after which we went through - he must have done five square searches to (garble) And he gave up on that and went to try the past (laughter) He went to try the uplink thermal alignment procedure - that was an absolute zero - because he went over the whole scan available - the meter stayed sitting right squad at 12 percent. However, in the process of doing that we looked over and lo and behold invisible - and we came out short 60 percent so and while we were watching that it crept up to 70, so then we tweaked it up again and they took my heart in my hand and focused it a little bit and we got it back to about what we started with. So we put in approximately 2-1/2 man hours to keep from losing ground.

CC We copy.

SPT I have another one added. You're through with the whole procedure - we never had it aligned ready light.

CC Copy.

SPT (Garble) let the SPT give you one one because I was hand holding the television - I failed to get the ZLV (garble) for which I apologize and on that me a TV. I hope we don't have to do it again or I think we've got enough, I mean for EREP. I was scheduled to be down in the basement doing half procedures and calibrations and stuff, but no way, even with three of us up here it was tough going.

SL-II MC-439/3

Time: 15:53 CDT, 9:20:53 GMT
6/2/73

CC We copy.

PLT Incidentally, however, I did get the MO-74 electronics changed in the head. The one in the head now works fine, the one in the wardroom doesn't.

CC We copy, and thank you, Joe. And on that cal, if it's at all possible for you to get that one cal down to us by voice, we'd be grateful. We are aware of your comments this morning and I'm bringing the rest of it back, but we haven't seen that.

SPT A fifth of good wine for me? After the flight?

CDR Houston, you still there?

CC Yeah, we'll still here, Pete.

CDR Let me tell you what the problem was on this - we got curve on the TV because when they did the setup work which they did a very excellent job on, the ATM panel didn't have a chair or the three work boards at it. So the first thing that happened was PJ took the first board away to mount the camera and then setup the camera and was looking at two more boards and a chair and rather a chair up Dr. Kerwin's library spread out in front of the panel which we decided we elected to hand hold. And then we started getting in other troubles with the alignments and so we started by the curve and slowly faded (garble) I hit the curb and I'm not sure we've caught up yet, but we're getting there.

CC Okay, Pete. We copy.

CDR You know for PV-11 SL-3, why they ought to find another location - I think about the fact that there are other things in the way.

CC We copy.

CC Pete. Could you give us a quick call on which circuit breakers and when, for example, there are two on panel 192 and one on 202.

CDR The ones on panel 137. 137, Houston.

CC We copy.

CC Pete, could you tell us when you closed those?

CDR 18:15, Houston.

CC Thank you very much.

CDR The breakers were closed at approximately 18:15 Zulu.

CC We copy that, thank you.

SPT Houston, SPT. Are you monitoring our EPS along with (garble)?

CC That's affirmative, Joe.

SPT Okay.

SPT I've got a rate flow talkback.

CC We copy. We've got 16 complete set times.

SPT Okay.

SL-II MC-439/4

Time: 15:53 CDT, 9:20:53 GMT

6/2/73

SPT
on 192, Houston?

Do we have time for that other (garble)

PAO This is Skylab Control, Greenwich mean time 21 hours and three minutes. As evidenced by that discussion the crew apparently is enjoying their work in Skylab as Commander Conrad repeatedly chuckled over the air-to-ground. Science Pilot, Kerwin reported a rate talk-back at the end of the last pass. This indications were that one of the CBRM's might not have returned but the ground however, reported that 16 CBRM's had returned on line. We will have air-to-ground a live air-to-ground over Hawaii in 33 minutes from now. Another point to clarify - Science Pilot Kerwin reported transferring the electronics from the wardroom specimen mass measurement device to the weight management area. This is Skylab Control at 21 hours 04 minutes Greenwich mean time.

END OF TAPE

SL-II MC-440/1

Time: 16:36 CDT 9:21:36 GMT
6/2/73

PAO This is Skylab Control. Greenwich mean time 21 hours 36 minutes. We anticipate a very brief pass over the Hawaii tracking station. This pass should last approximately 1 minute.

CC Skylab Houston. AOS for about a minute.

PLT Okay Houston. If you get a chance, look at S054 will you please. I have a white talkback on the door. I cannot get it either way.

CC We copy Paul. We're looking. Also on your previous voice transmission on the CBRMs, we had 16 complete down here, but you mentioned there was an anomaly. Can you say another word about it?

PLT That was the SPT, and I was just asking you to look at them with me. We had a barber pole rate talkback, but it was for number 3 and we too had 16 good ones.

CC Copy.

CC We show the same indication here as we've got in your malf procedure.

PLT Okay, on the door, you mean?

CC That's affirmative.

PLT Okay, reading through the book it leads me through the block and says the door has failed. It then leads you on to inhibit the primary motor and power up the, enable the secondary. And I'll wait for word from you guys.

CC Copy and approved.

PLT Do you want me to go ahead and do that?

CC Stand by.

CC We'll be LOS in about a minute or less and we'll see you in Hawaii - at Goldstone at 21:42.

CC Paul, go to page 14-3 malf and proceed from there.

PAO This is Skylab Control. A brief conversation with Capcom, Dr. Bill Thornton and Pilot, Paul Weitz discussing a door apparently which has malfunctioned on the S054 experiment. The S054 is part of the Apollo telescope mount series. The X-RAY spectrographic telescope. The ground will check on that. Paul Weitz said he had a white talkback on the door, which indicates the door has not functioned properly. Science Pilot Kerwin reported he had a barber pole on one of the CBRMs. He said that this was number 3. The ground did confirm with the spacecraft that they did have 16 complete CBRMs come on line following the Earth Resources pass at 3:00 this afternoon. We will have AOS over Goldstone. We will leave the line up for any conversation coming over Goldstone. This is Skylab Control at 21

SL-II MC-440/2

Time: 16:36 CDT 9:21:36 GMT
6/2/73

hours 41 minutes Greenwich mean time.

CC

Skylab Houston. AOS for about a minute.

CC

PLT, Houston.

END OF TAPE

SL-II MC-441/1

Time: 16:43 CDT 09:21:43 GMT

6/2/73

CC Skylab, Houston. AOS for about 3 minutes.

CDR Roger.

CC PLT, Houston.

PLT Go.

CC We want you to proceed on normal ATM OPS, and when you have time. On page 14-3 on your malf procedures on ATM, if you would do that at that time, when you have time.

CC And Skylab, we'll be dumping the tape recorder at Vanguard.

CC Skylab, Houston. LOS in approximately one minute. AOS Vanguard at 2204. We're coming up, you should be seeing a tropical depression in approximately 3 minutes that you might want to take a look at.

PLT Okay, we will if we get time. The status is the secondary door does not open the motor. Lights burning good, and we're going to put them both on the line now.

CC We copy.

PAO This is Skylab Control, 21 hours 47 minutes, Greenwich mean time. The previous conversation through the Goldstone tracking station. Discussions were continued on the S054 door, which seems to be inoperative. The ground does not know whether the door is opened or closed at this time. Capcom, Dr. Bill Thornton has advised the crew to proceed with normal operations of the ATM experiments. S054 is designed to obtain photos of the X-RAY producing events. The flares in active regions on the Sun in the soft X-Ray spectrum to show time development from a fraction of a second to several months, and distinguish thermal from non-thermal sources. The crew has also been asked to look at a tropical disturbance southwest of Mexico at this time. The crew was asked to look at, and their response was, if we have time. The next acquisition will be over Vanguard tracking station in approximately 15 minutes from now. This is Skylab Control, Greenwich mean time 21 hours 49 minutes.

END OF TAPE

SL-II MC-442/1
Time: 17:04 CDT 9:22:04 GMT
6/2/73

PAO This is Skylab Control, Greenwich mean time 22 hours and 3 minutes. Skylab space station is now, will be crossing over the tip of South America, shortly to begin its 278th revolution. We anticipate conversation with the crew as the spacecraft passes within the Vanguard tracking station. This is Skylab Control.

CC Skylab Houston, AOS 10 minutes.

SPT Roger Houston. We got the 54 door open. Pete worked the procedure while I while I read the JOP. What he wound up doing was putting both motors on to get the door open. And according to the malfunction procedure, when you do that, it opens the other experiment which shares those motors and leaves them both open. However, as I'm sure you are even more aware of than I was is that, that other experiment for 54 is S052. So the plan right now I've got the auto door switch to stowage and we're going to close all the doors manually at sunset except S054. And I'll go on that until you tell me something different.

CC We copy.

PLT Also Bill, while the ATM guys are smoking that one over, I've got a comment for the EREP guys on the S192.

CC We're standing by, Paul.

PLT Okay gang, what happened was of course with those breakers being open, we started to warm up early, late I mean. But I was listening for the coolant motor to shift gears. Well it shifted down and ran in low speed for about half a minute I guess and then it started to cycle and it sounded to me like it was cycling between high and low for 2 or 3 minutes, and about once a second or once every 2 seconds frequency and then finally it settled in on low speed, and for what ever that is worth.

CC We copy.

PLT Hey Houston I got the AUTO DOOR switch in STORAGE rather than INHIBIT. I assume either position will hold that door open.

CC We copy Paul.

END OF TAPE

SL-17 MC-443/1

Time: 17:09 CDT 09:22:09 GMT
6/2/73

CC PLT, Houston.
PLT Go ahead.
CC We want you to perform Block 22 of the malfunction procedure.
PLT (garble)
PLT I guess maybe Pete and I didn't understand the procedure then. You saying if we do Block 22 which inhibits both those motors, that'll do it for 54, but won't affect 52. Is that right?
CC It will leave 52 open also, Paul, but that is what they want to do.
PLT Okay, so next pass then, you saying when I go sunsetters, I'll get it (garble) open the 52 doors, and perform Block 22, and leave those two doors open, and we'll have to stay sunsetters for a while then, huh?
CC Paul, they want you to continue on through the malfunction procedure, 19 through 22, and 22 has a warning block, and this leads you on into Block 25.
PLT Okay. How about just answering a couple of questions for me? If I perform Block 22 for S054, does that also disable the doors to S052?
CC That's affirmative.
PLT Okay. So we want to leave them both open, and do that and then by merely going to TV with the main power in STAND BY, but you say we have to go to TV before we go to STANDBY, and that'll flip the MALP and protect S052.
CC That's affirmative, Paul.
PLT Okay, got it. Thank you. Well, I'll stay in my present configuration until next daytime pass, which happens to be a sunsetters job anyway.
CC Roger there.
CC Skylab, LOS in about 30 seconds. Hawaii
AOS 23:13.
PLT Okay. See you in an hour.
PAO This is Skylab Control. 22 hours and 15 minutes Greenwich mean time. Capcom Dr. Bill Thornton advised the crew that the procedure they followed in opening the S054 door, the X-Ray spectrographic telescope was proper. In so doing the S052 door opened at the same time. The ground advised the crew this is perfectly all right and they shall continue to operate in this mode. The Vanguard tracking acquisition was just concluded. The next pass will be over Hawaii in 57 minutes. On the next Vanguard pass at 1 hour and 26 minutes from now, Commander Pete Conrad will be greeted by his family on live air to ground, as the crew of Skylab space station makes a 9 minute pass over Vanguard, beginning at 6:42 central daylight time. 6:42 p. m.

SL-II MC-443/2

Time: 17:09 CDT 09:22:09 GMT

6/2/73

central daylight time. Mrs. Conrad and the Conrad four children, Peter, age 18; Tommy, age 16; Andy, age 14; and Chris, age 12, are scheduled to come to the Mission Control Center, where they will talk to their - Commander Conrad, in observing his 43rd birthday today. This will occur at approximately 6:42 p. m. this evening. This is Skylab Control at 22 hours 17 minutes Greenwich mean time.

END OF TAPE

SI-11 MC-444/1

Time: 18:12 CDT 9:23:12 GMT
6/2/73

PAO This is Skylab Control. Greenwich mean time 23 hours and 12 minutes. Skylab space station is coming into acquisition with the Hawaii tracking station. We anticipate a pass of approximately 9 minutes. We will pick up the line and wait for any conversation.

CC - - minutes.

SPT Roger, Houston, this is the SPT. The PLT has the S052 door open and the S054 door open and the S052 configure mirror position to TV main power stand by and he has both the primary and secondary door motors inhibited. And so we're in a good configuration but we are nervous as cats about it because any time we use S052, we're in a position to blow it sky high if we don't remember the procedures. Are you, by any chance, planning to try closing the S054 door again on 1 motor?

CC Stand by, Joe.

SPT It seems to me it would be worth risking because if you drive it in on one motor, you can always use two to get it open again. And it would stay in S052 from this risk you take.

CC They're looking at it Joe. Joe, while we're on the subject, on the daily ATM schedule pad, do you want this warning in block 22 relative to S052 set up?

SPT Well, I don't think it would hurt to have it on the top of every dayside pass. We have constructed a cue card and rigged it with red tape and put it on the console near the MPC. And I just hope we remember. And if something happens like the flare alarm or so you might you know, go hurrying off and then it's too late.

CC Okay Joe, we copy.

CC And Joe, save the food that you asked about this morning and we're sending up a stowage procedure shortly.

SPT Okay.

SPT Also, Houston, leaving those door, door motors inhibited has an operational application in that you have to deduce when the experiments say it is operating like keeping track of the dark frame cutters. That I wasn't aware that inhibiting the motor also does away with the door position talkback and the radio operation indications through the operator.

CC Copy.

CC Is the CDR busy at the moment?

SPT Say again, Houston.

CC Is the CDR busy at the moment?

SPT Roger, he's recording the daily evening report on Channel B. I'll have him give you a call soon as he's done.

SL-II MC-444/2

Time: 18:12 CDT 9:23:12 GMT
6/2/73

CC Okay.
CDR Go ahead, Houston.
CC Pete, some people will be talking to
you over Vanguard on this coming pass on the open loop.
CDR Okay.
CC And while about it, Pete a very happy
birthday.
CDR Thank you sir. I was thinking about
that when I was in the LBMP. It was a heck of a day to
be in a can, in a can on my birthday.
CC Yeah.
CDR Especially seeing it's a Saturday isn't
it? Today is Saturday isn't it.
CC Yeah, today is Saturday. I've got to
buy my wife a birthday dinner as a matter of fact, and I'll
be thinking about you eating your gourmet Skylab food while
we struggle through something.
CDR Very good. Is today her birthday?
If so, wish her happy birthday for me.
CC Skylab, LOS in 1 minute. Vanguard at
23:43.

CDR Roger.
PAO This is Skylab Control, 23 hours 23 min-
utes Greenwich mean time. Conversation with the Skylab
space station over Hawaii with Capcom Dr. Bill Thornton,
wishing Commander Pete Conrad a happy birthday on his 43rd
birthday. Commander Conrad commented said he was thinking
of it as he was laying in the lower body negative pressure
device medical experiment M092. And he said it's a heck
of a day to be spending a day in the can. The lower body
negative pressure device is a cylindrical device which
the astronauts slide into and pressure is lowered in
the device. And Capcom Thornton continued by saying that
he would have to go out and buy his wife a dinner today,
it's her birthday. And he mentioned that he would have
to buy his wife a dinner and as you struggle through your
gourmet meal. It so happens tonight Commander Conrad is
having spaghetti, green beans and ice cream. That's vanilla
ice cream. The first time ice cream has been flown in
American spacecraft. This is Skylab Control at Greenwich
mean time 23 hours 24 minutes. The next pass will be over
Vanguard in approximately 18 minutes.

END OF TAPE

SL-II MC-445/1

Time: 18:40 CDT, 9:23:40 GMT
6/2/73

PAO This is Skylab Control, Greenwich mean time 23 hours and 40 minutes. We will have acquisition at the Vanguard tracking station. We will expect a live pass with the spacecraft and on the ground to talk to Commander Pete Conrad is his wife Jane and their four children, Peter, Tommy, Andy, and Chris here to observe their father's 43rd birthday.

CC Skylab, this is Houston standing by for the next 9 minutes.

CDR Hello there, Houston. Skylab, here.

CC Skylab, was that you answering?

CDR That's affirmative. How do you read?

CC Hello, Pete. We have a special crew of

CAPCOMS taking over this pass.

JANE Hi Dearie. Do you know who this is?

JANE Dearie?

CDR Hello there? How do you read?

JANE Okay, just fine. I just got the button right. Well, the boys and I wanted to call you up and say "Happy Birthday".

CDR Thank you. The boys ought to be up here. They'd really enjoy this big tank.

JANE I know it. We watched the movie yesterday and we were just going crazy.

CDR What did Thomas said he wanted to do.

TOMMY Dad?

CDR Yes sir.

TOMMY When can I catch the next flight up there?

CDR Oh about the time you finish college I guess.

TOMMY Because I wanna try floating around.

JANE Here's Andy. He wants to say something.

ANDY Say, Dad.

CDR Hello Andrew, how's it going?

ANDY Umm fine.

CDR You boys been out on the bikes?

ANDY What?

CDR Have you boys been out on the bikes?

ANDY No. Not hardly any.

JANE Here's Crissy.

CHRIS Hi Dad.

CDR Hello, Christopher, how's everything - oh what's tomorrow? Tomorrow's Sunday? Y'all going to run the bikes tomorrow?

CHRIS Yes, I think Thomas is, but I don't really want to.

CDR Okay. Been ready to play golf?

JANE Here's Peter.

SL-II MC-445/2

Time: 18:40 CDT, 9:23:40 GMT

6/2/73

PETER How're ya doing Dad?
CDR Good, you all finished?
PETER Yes sir. I think I passed.
CDR How'd it go?
PETER All right. I think I passed this year.
CDR Very good.
JANE That movie was so terrific. We don't wish
you were here, we wish we were there.
CDR It's pretty good. We had a good day today.
The schedule worked well and I think we're learning our way
around. We certainly haven't done everything there is to do,
so I'm not worried about the rest of the time passing.
JANE Well, we're going to stay here until the
EVA and then we'll probably go to the ranch.
CDR Okay, very good. Well that's what? I've
lost track of time.
JANE Well I don't know. The EVA's supposed to
be either Tuesday or Wednesday, I think, if they get it all
worked out. Do you know when it is?
CDR No, I - oh, yeah, okay.
JANE Anybody else want to say hello? Beth's
here, do you want to say hi to her?
CDR Certainly. Hi, Beth, how's everybody in
Uvalde?
JANE Wait a minute. Beth doesn't have a head-
set yet, Peter's just getting ready to hand it to her.
CDR Okay.
BETH Hi.
CDR Hi, Beth. How's everybody in Uvalde?
BETH Just fine.
CDR That's good - y'all have a good time down
at the ranch.
JANE Dearie, all the neighbors wanted me to wish
you "Happy Birthday" and your mother did too.
CDR Well, thank you for them - for their thanks
and birthday wishes - also how are the Allens?
JANE Their doing just fine.
JANE And they said "Happy Birthday" too.
CDR Good, okay, thank you.
JANE Somebody's saying ask him something. What?
TOMMY Dad?
JANE Oh, what are you having for dinner tonight?
CDR Green beans. And I ate them all.
JANE Good for you. (Laughter)
CDR I think I'm gaining weight.
JANE Don't you have a way to oscillate yourself
and see?

SL-II MC-445/3

Time: 18:40 CDT, 9:23:40 GMT

6/2/73

CDR Yeah, well, the ground weight says that we weigh more than when we took off, but the scale conversion that we have up here says all of us have lost about a pound or two, so I don't know. But I think we're holding our own.

JANE Do you feel good?

CDR I also had spaghetti and I'm holding two extra butter cookies tonight to eat with my ice cream to celebrate my birthday.

JANE Good, do you feel good?

CDR I feel just fine.

JANE Great. Okay, Chrissy wants to say something else.

CHRIS Dad, Grannie wants to know your - the size shirt you want cause she's gonna get you it for your birthday.

CDR Well, I haven't changed any on that. It's 14-1/2 and 32.

CHRIS Okay, she just wanted to know that. She called me up the other night and said to ask you when we talked to you.

CDR Okay, very good.

CHRIS Okay. See you in a month.

ANDY Dad?

CDR It won't be that long now.

ANDY Dad?

CDR Yeah.

ANDY This is Andy.

CDR Yeah, I know who it is.

ANDY I got my cam and I had to adjust it.

CDR You did? Is it running all right?

ANDY No, I don't know how to tune it.

CDR Oh, can't Thomas tune it for you?

ANDY Huh uh.. Here's Thomas.

TOMMY Dad?

CDR Yeah.

TOMMY I was trying to tune it, but I don't know it - the size of the cam doesn't seem like too much extra.

CDR Well, we'll have to look at it when I get back. I'll have to tweak up on my tuning again.

THOMAS Okay, I think Peter wants to talk to you.

CDR All right.

END OF TAPE

SL-II MC-446/1

Time: 18:49 CDT 09:23:49 GMT
6/2/73

CDR I'll have to look at it when I get back.
I'll have to tweak up on my tuning again.
ANDY Okay, I think Peter wants to talk to
you.
CDR All right.
PETER Dad.
CDR Been doing any flying.
PETER Yeah, will that's what I need to talk
to you about. Can I go make a cross country next week, cause
I haven't flown cross country in a year, since last summer?
CDR Okay, very good. Were you gonna go out
to Uvalde?
PETER I'm gonna go to Laredo for the night.
CDR Okay, very good. Have a good time.
PETER All right.
CDR No thunder bumpers.
JANE Deary , say high to your buddies and
congratulate them on their summersaults.
CDR I sure will. They're sitting here
listening.
JANE What did you say?
CDR I said, they're sitting here listening.
Say hello to them yourself.
JANE Okay.
PLT Hi. Jane.
JANE Hi, is this Paul?
PLT Yes.
JANE Hello. Who are we talking to now?
JANE Hello.
SPT Hello, Hello.
JANE Hi. Is this Joe?
SPT Yeah. I haven't figured out how this
darn thing works yet, you know.
JANE Well, you have about 500 people trying
to talk to you at once. Maybe that's why.
SPT (laughter)
JANE We all watched the movies last night.
Everybody gathered up in Kenny Kleinkuecht's office, and we
saw the best acrobatics we've ever seen in our lives. We
were so jealous we couldn't stand it.
SPT Great. Were the Kerwins there.
JANE They certainly were. All of them.
SPT Give them all my love, Jane.
JANE Okay, I sure will. Good to talk to you.
CDR You all be good. I guess we ought to
be at about the end of the pass, huh?
JANE We have a minute and 35 seconds. Christy
wants to say something else.

SL-II MC-446/2

Time: 18:49 CDT 09:23:49 GMT

6/2/73

CDR Okay. You sound like a good Capcom.
CHRISTY Happy birthday, Dad. I just wanted to
tell you that.
CDR Okay, Chrissy, thank you.
CHRIS Okay.
JANE I guess we'll let the Capcom have a
minute and 20 seconds, in case he has something important
to tell you.
CDR Okay.
JANE But, happy birthday. And Bye-Bye. I'll
talk to you again.
CDR All righty.
CC Pete, Carl down here. I'll be with you
for the rest of the evening, and we've got one minute to
LOS. We'll see you over Hawaii at 0050.
CDR Roger Carl, now that we got you up at
Capcom, I expect to see lots of S019 - I mean I won't be
surprised if I see lots of it.
CC Man, I sure hope so, and hey, thanks to
you guys for getting that fixed, especially to Paul. That
was a great job.
CDR No sweat.
PLT Not only that, but I found the forth
screw today and put it back.
CC Hurray. That's a great - Now we're
really going.
CDR Don't how it missed going into the big
OWS screen, and it made it by there, which is very difficult
to do, and we found it in the OWS heater exchanger.
CC Amazing.
PAO This is Skylab Control Greenwich mean
time 23 hours 53 minutes. A very happy family in the mission
Control Center this evening. Mrs. Jane Conrad and her four
children talking to their father on his birthday. Jane
Conrad commented after watching the film of the orbital
workshop exercise yesterday, she told her husband "We don't
wish you were here, we wish we were there with you." Com-
mander Pete Conrad's older son Peter asked his father's per-
mission to make a cross country flight in his airplane. The
young boy has been a pilot for quite awhile. Mrs. Conrad
mentioned to her husband that they plan to stay in Houston
until the proposed EVA to repair the orbital workshop solar
panel is conducted, then they plan to leave for Uvalde to
Mrs. Conrad's parent's ranch outside of Uvalde. Attending
the conversation with the Conrad family was Beth Casal, 17
year old Uvalde girl, who says she is Peter Conrad's girl-
friend. This is Skylab Control at 23 hours 54 minutes. We
will acquisition over Hawaii in approximately 56 minutes.

END OF TAPE

SL-II MC-447/1

Time: 19:07 CDT 10:00:07 GMT
6/2/73

PAO This is Skylab Control at 00:07 minutes Greenwich mean time. We are presently in a change over of flight controls here at the Mission Control Center. Off going Flight Director Don Puddy is turning the Control Center over to Neil Hutchinson, who heads up the silver team. Flight Director Puddy is scheduled to hold a press conference in the Building 1 Newsroom at approximately 7:20. As Skylab is in its 279th revolution crossing over South Africa. This is Skylab Control at 00:07 minutes Greenwich mean time.

END OF TAPE

SL-II MC-449/1

Time: 20:20 CDT, 10:01:20 GMT
6/2/73

PAO This is Skylab Control, Greenwich mean time one hour 20 minutes. Skylab space station will be approaching the Vanguard tracking station where we expect we will have air-to-ground for the final evening report from Commander Conrad on the day's activities. Pilot Paul Weitz is scheduled to spend approximately one hour on the ATM console later this evening prior to the crew's scheduled sleep time which will begin at 03:00 hours Greenwich mean time. We'll keep up the line now for any air-to-ground with Capcom, Dr. Carl Henize.

CC

Skylab, Houston, standing by for 10 minutes.

CC

And Skylab, be advised we are dumping tape recorders this pass and we'll be standing by for an evening status report.

CDR

Okay, coming up right away.

CDR

Okay, shooting for the CDR. He ate everything plus two butter cookies, three optional (garble).

CC

Roger.

CDR

The SPT, he ate all his breakfast. He did not eat his catsup for lunch because it spoiled, nor did he eat his bread. He ate everything else. He had Delta H2O of (garble), 1.0 and that was it.

CC

We copy.

CDR

Okay. I have to read all this. The PLT ate half his bread for breakfast, and did not drink his coffee with sugar. Okay. For lunch (garble) 65 he only ate some of it. And he had two tissues in the box, but he weighed it, and the weights were 2.2, 018 9 2201 and 50 220135. He had optional calories 22 (garble) (laughter). He didn't eat all his pudding so he confused me a minute. Okay. Let's go on to dinner and then let's put down that he ate all his dinner and then let's put - (garble) well why don't you scratch it out. Okay. Didn't eat item 22 for dinner and he got no tissues in the can and weighed out at 2006920 206947 206936. He also didn't eat all of items 32. He had no tissues in that can and that weighed 1211297 211259 211357. Then we get to his snack. He didn't drink his coffee, but he ate everything else.

CC

Skylab, we're still copying.

CDR

So am I. Okay, let me give you the photo status report for day 153. The 16 millimeter column you had a camera 151/f-183, C10-4 80 M10-1. The next column. F-183 2803 90 not applicable. The next 16 millimeter column. EREP 2 BHO-1 80 percent not applicable. 35 millimeter ZI 26, frame count is 29, 2X-22 frame count is 31. 70 millimeters, CSO-5 frame count is 105. On the EREP today the set was Q, one was 7373 219573 three was 7093, four was 6481, five was 8248, six was 7151. The drawer-A configuration is A-1 02 G1-05 83 ZI-01 A-2 was - -

END OF TAPE

SL-11 MC-450/1

Time: 20:26 CDT 10:01:26 GMT

6/2/73

CDR Five with 8248, and six with 7151. The drawer A configuration is A102 C10583 C101: A2 is 03 C10319 MT10. A3 is 04 C11480 MT01. Floating is 05. Now I've got a couple of malfunctions. We have counter although the film is moving on 35 millimeter with CX22 and we're working from memory.

CC Pete, Houston. We've had some glitch in the gyros on the G axis, on the Z axis and we want to let you know that we're bringing up the third gyro on the Z axis.

CDR Yeah, we got the alarm here a while ago and it has gone into redundancy.

CC Okay, go ahead.

CDR There were no flight plan deviations today. And we thought today's flight plan was excellent. There are no stowage changes. And let's talk about TV. We did have one problem that came up with the TV during EREP, which we discussed earlier. And we have done some trouble shooting on the TV camera that went out, and I'm afraid we've lost it for good. We shifted the power cable and nothing runs in the camera nor does the monitor get any power. And the color wheel is not stuck. So, I think, unless you come up with something else that we can do, we have researched the subject other than tearing into the camera and it sounds to me like the main power supply has gone out, or possibly it's fused in there and the fuse is gone. Over to you Houston.

CC Roger, Pete we copy that.

CDR That's it for the evening status report. And Houston, we don't have a flight plan yet, is that correct? Hello, Houston.

CC Skylab, Houston. I'm hearing unofficial words that there should be a flight plan up there now.

CDR Well I guess it came in just then. But we didn't have it up. Okay we'll go look.

CC Roger Pete, they say that they sent it up on the last rev. And we have one, well we have about a minute and a half to LOS. And we'll see you over Ascension shortly at about 01:37. That's right that is going to be a med conference over Ascension.

CDR Roger Carl. A couple of things for you Carl you might pass on to the other crew. The S183 very sensitive on the focus to bring onto star field. But once you get them, they are very good.

CC Very good, glad to hear it. I take it that the stars were centering fairly well.

CDR They just set a field Carl and there was nothing in the center of it. I presume they were happy

SI-11 MC-450/2

Time: 20:26 CDT 10:01:26 GMT
6/2/73

with the pointings. They gave no --

CC Righto

CDR I say they gave a reference though.

CC Skylab Houston. An urgent question

on the TV. When you used the second camera, did you use the same imputstations?

CDR No, we - yes. If there is only one in the MDA, we came down and tested it on another one, which we used the first camera on swap cables. We swapped everything.

CC Okay, we copy that. We're sorry about that camera.

PAO This is Skylab Control. Greenwich mean time 1 hour 31 minutes as the Skylab space station passed through the Vanguard tracking station. Commander Conrad gave the evening report commenting on what the crew ate during the day and what they did not eat. He described the malfunction of one of the two TV cameras onboard, color television. And he said that he thought the way the camera operated that it sounds like the main power supply is gone. Capcom, Dr. Carl Henize responded "we're sorry about that camera." The next pass will be over Ascension in approximately 4 minutes from now, and this is the standard evening medical conference with the Skylab flight surgeon. At GMT 1 hour and 32 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC-451/1

Time: 20:36 CDT 10:01:36 GMT
6/2/73

PAO This is Skylab Control 1 Minute - Belay that - This is Skylab Control, 1 hour 36 minutes, Greenwich mean time. Skylab will be coming into acquisition with the Ascension tracking station for a scheduled 6 minute pass at which time the evening medical report will be discussed with the Skylab Flight Surgeon. We'll bring up the line if there's any air to ground communications with the Mission Control Center.

CC Skylab, Houston. We have LOS in about 40 seconds and we'd like to send up a message. We'd like the RM enabled in the Z2 GYRO please.

CDR Say again, Houston.

CC We'd like to have Z2 for control, with RM enabled.

CDR You want RATE GYRO Z2 for control.

CC Roger. With RM enabled.

CDR With redundancy management enabled, okay.

CC And Pete, we're on the backup strapdown, and it looks like we had a hard over on the number 1 Z-Axis GYRO and we have a few seconds to AOS. We'll see you over Guam at 0221.

CDR Say, Houston. You want 2 and 3 or 2 only.

CC Two only.

CDR Roger. Two only.

PLT In other words we're single GYRO. Is that right, Houston.

CC That's right. Affirmative.

CC Z3 is spinning up, but we'll hold it with Z2 until then.

PAO This is Skylab Control at Greenwich mean time 1 hour and 45 minutes, as the Skylab space station leaves the acquisition of the Ascension tracking station. The next acquisition will be at Guam, Guam Island in approximately 35 minutes. This is Skylab Control.

END OF TAPE

SL-11 MC-452/1
Time: 21:28 CDT, 10:02:28 GMT
6/2/73

PAO This is Skylab Control, Greenwich mean
time 2 hours 28 minutes. We have acquisition of signal
at Guam with Dr. Karl Henize serving as Cap Com. We'll put
that line up now.

CC Skylab, this is Houston. We'll be standing
for about 5 minutes over Guam.

CC Skylab, this is Houston standing by for
five minutes over Guam.

SPT Oh, you got Guam working again, huh?

CC Yeah, seems to be working okay. I've got
a couple of messages for you. First of all, on those Z-axis
gyros, we're turning on the third gyro over Guam here and
we'll select 2/3, probably over Vanguard. In the meantime,
we'd like for you to turn on the star tracker to help evaluate
the problem, and we need it on by 02:50. And I have a pad
for the star tracker when you can copy.

SPT Okay, go ahead, Carl.

CC Star Tracker pad, Achernar and we have a
zero after the 5,000, day 30 00, day 52 00, inner-gimbal minus
0078, outer gimbal, plus 0840. It's valid 154 0100 210 00.

SPT Stand by.

SPT Okay, I understand it's Achernar which is
50,000. Good from day - 30 minutes to day 52 was that it
Carl?

CC Day 30 to day 52, Roger.

SPT Okay, inner gimbal minus 0078, outer is
plus 0840 and valid from 0100 today til (garble)

CC That's correct.

CC Roger, and note that we need that turned
on and acquisitioned by 02:50.

SPT I understand. We'll get right on it.

CDR Don't worry, Carl. Tonight's the first
night all three of us are going to bed as scheduled on time.

CC Very good.

CC And Pilot, on your way back down through
the airlock module, we'd like for you to crank down both
reg adjust pots to full counter-clockwise. We're hoping that
this will help us charge up batteries five, six, and seven.
And we have evening questions on the teleprinter as you come
by.

PLT Okay, reg adjust full counter-clockwise
down.

CC Roger.

CC We're putting on the primary coolant loop
and you'll get a C&W.

PLT I understand.

CC Pete, we'd like to update you on our thinking

SL-II MC-452/2

Time: 21:28 CDT, 10:02:28 GMT

6

down here about the power panel EVA. We've got about 40 seconds before LOS.

CDR Go ahead.

CC There's a big management meeting scheduled on Monday to evaluate all the work that Rusty's been doing down in the tank and to formulate several options, and we'll send up the results to you for your evaluations. Then we'll mutually settle on an EVA plan and go from there. There is no EVA planned for Tuesday.

CDR Okay.

CDR (Garble)

CC Roger, we have LOS in a few seconds and we will pick you up over Vanguard, just before you go to sleep at about 02:59.

CDR Okay, see you then.

PAO This is Skylab Control, Greenwich mean time two hours and 32 minutes in the previous pass over Guam. Astronaut Carl Henize discussed with the crew the putting - turning the Star Tracker on. The star tracker is the Apollo telescope's star track of - is designed to provide star position inputs to the Apollo telescope mount digital computer for calculating the roll reference angle in the orbital plane of the vehicle. It also mentioned the gyros. There are three gyros onboard, two of which can provide function of maintaining the stability of the spacecraft. Also the crew was advised of the proposed meeting Monday of NASA management in Huntsville to go over plans for proposed EVA to repair the orbital workshop solar panel. Cap Com Henize did advise the crew that there will be no EVA on Tuesday, however. The crew will begin their sleep period at three hours Greenwich mean time and as they pass over Vanguard mission control center's scheduled good night to the crew in approximately 25 minutes. This is Skylab Control, Greenwich mean time two hours 33 minutes.

END OF TAPE

SL-II MC-453/1

Time: 21:57 CDT 10:02:57 GMT

6/2/73

PAO This is Skylab Control Greenwich mean time 2 hours 57 minutes, with scheduled acquisition over the Vanguard tracking station as the Skylab space station completes its 280th revolution of the Earth. We anticipate probably the last conversation of this evening with Capcom Dr. Carl Henize and the Skylab crew. We'll hold the line up for that conversation.

CC Skylab, this is Houston standing by for 10 minutes.

CDR Roger and Houston we've got your questions and I have the answers for you. Are you ready to copy.

CC Roger, we're standing by.

CDR Question number 1 on the teleprinter paper there was no difference. Question number 2 as usual we probably hit one of those switches. Bravo Panel 200 both the antenna breakers were closed, but on Panel 204, the right one was in disk rather than command. So I put it back to command. I presume that is what you wanted.

CC We're copying, go ahead.

CDR Okay 3, the first time we cleaned the tape recorder we used the ones that were in the MDA. Today we used the new ones. And this evening after your question, we opened one each and gave them a sniff test and a squeeze test, and we concluded that there is no difference.

CC Okay.

CDR Question number 4, Paul says he can't verify 3-1/2 minutes, he doesn't really know. Question number 5, we went to the S054 dashed malf procedures and went block 1 block 2 to block 12 to the doors 1. In the doors 1 we went right down it 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, then to 19 then to 22 then to 25.

CC Very good.

CDR The answer to question number 6 is no. The question to answer number, I got it backwards. The question number 7 the answer is no.

CC Fine. Everybody sounds happy with those answers. At the moment and I have no immediate comments.

CDR Okay, we're pleased to announce that everything was done on time today and we're even going to bed on time today, which makes us feel especially good. We're looking forward to tomorrow.

CC Beautiful, glad to hear you guys are so happy up there. I've got a couple of last minute comments for you. First of all we're going to reset that ACS malfunction light that's on up there, so that we can

SL-II MC-453/2

Time: 21:57 CDT 10:02:57 GMT

6/2/73

monitor it through the night. And also we've had a small debate down here how we should give you that caution on the S052 power problem. The question is in every pad should we give you the 3 switch commands required to safe S052 or should we simply say S052 and then later enable S052? What would you like?

PLT The latter would be fine Carl. We've invented a cue card with the 3 switch commands and we've got it on the console. Paul's suggestion is that every time S052 is used in a building block that before another building block calling for offset pointing you put in the caution warning such as you suggested.

CC Righto. From now on it will be safe S052 and enable S052.

CDR Very good and it is going to come up in red ink, right?

CC Yes sir. We've got all sorts of fancy resources down here to do that sort of thing.

CDR Hey Carl a little word of clarification on starting the 93 altimeter today. I cannot verify that had 3-1/2 minutes of warm up. I don't know how close it was played on the pass but I already threw it out. What I can verify is that it went to standby late.

CC Okay Paul, I think that their question very well. Thank you.

CDR Okay, what do you plan to do about trouble shooting the S054 door? Are you going to have something come up tomorrow and I'd kind of like to see us try and work that one out so we can back to a normal operation. That one bothers me more than, it couldn't have been a worse one to go wrong.

CC The best we can say is we are worried about it too, and we are thinking about what might be done. We'll probably come back to you tomorrow for further discussion.

CDR We can always do a third EVA and go fix the door.

CC Jack Schmitt was down here listening in and said - suggested the same thing.

CDR Great.

CC You guys are so great at fixing things why not go out there and do the job?

CDR I tell you. We just started to do a little experiment. We broke out the first bottle tonight about 20 minutes ago we had a little pitch game going. The three of us and then we turned it into a kind of a football game, off - ricocheting off the walls and throwing a few passes. We're working up a few dynamics and orbital mechanics for the ball.

SL-II MC-453/3

Time: 21:57 CDT 10:02:57 GMT

6/2/73

CC Hey I've really got a little bet going, but there has been a discussion going as to whether you can really throw the ball straight the first time, did you?

CDR Yeah, it goes straight as an arrow.

CC Amazing, we always thought you'd throw it high without the gravity there.

CDR Nope.

CDR We just had a little discussion about that and over the last 9 days we've been discussing the fact that how we've kind of acclimatized to where we are so rapidly, that none of us gave that a second thought tonight. I mean we weren't even thinking about that when we threw the ball.

CC Beautiful. I've been watching the TV pictures of you guys climbing around and sailing around up there and I think the whole world is thinking that they would like to be Jonathan Livingston Seagull also. It looked like that's what you guys are doing.

CDR Well, I think the M151 movie will show a lot more, where they show us not goofing off, but just working. And - -

END OF TAPE

SL-II MC-454/1

Time: 22:05 CDT, 10:03:05 GMT

6/2/73

CC - also. It looks like what you guys are doing.

CDR Well, I think the M-151 movies will show a lot more where they show us not goofing off but just working and the working is very interesting and also the way everybody whistles around the vehicle and we still get disoriented occasionally when popping through the MDA - through the airlock into the MDA, but after awhile if you start thinking about it you actually roll your flight pad when you leave the bottom of the workshop and head for the MDA and you wind up being at the right direction when you go by the ATM panel if that's where you're headed, that sort of thing. But we still have to think about that one a little bit.

CC Right, that's been one of the things I've been interested in. You sometimes you don't land feet first and land on your head or your back. Doesn't that bruise you a little?

CDR No, we really haven't done too badly on that. We've had a few bumps, scratches, but really very few. We're laughing about some of our spectacular ones that we've had.

CC I bet. Sure would like to be up there having fun with you.

CDR Joe said that TV was live not canned.

CC Good.

CDR Did Melvin Dolan have there his son in the studios before we left?

CC (Laughter)

CDR Well, we hope to do better on the EREP tomorrow. I tell you we had enough big goofins up today that Paul and I thought we didn't do a very good job on that. We're looking to do a better job on it tomorrow.

PLT Do they have any ideas on 191 and 192 yet, Carl?

CC So far as the malfunctions are concerned, somebody's come up with a comment there, but the people down here, even before I came on were sort of feeling very pleased. I heard the comment about how many sites you got today and flight says to say don't feel bad at all. Everybody here is very pleased.

PLT Well, but how about the hardware? I went through the 191 malfunctions today and can kinda - from what I remember of some of the numbers wind up with fact that only radio had logic. Does anybody else feel the same way?

PLT Okay, I don't expect an answer tonight, right now, I guess, Carl. But we just kind of like to be kept

SL-II MC-454/2

Time: 22:05 CDT, 10:03:05 GMT
6/2/73

abreast of how work is progressing on our problems, such as we haven't heard a peep out of anybody for 24 hours on our false OWS BUS low problem.

CC That one's in work and we haven't figured that one out and on these others, we're thinking, but if and when we come up with some firm conclusions we usually send them up to you, but I think the lack of information means that we haven't figured them out yet. We've got 35 seconds to LOS and I guess you guys are going to tuck in now. Have a good night's sleep.

PLT Good night, Houston.

CC Good n'ight, Skylab, sleep well.

CDR Say, what's our first station in the morning?

Do we need to set the alarm or are we going to hear your melodious voice?

CC I hear that the first station is Guam.

CDR At what time, please.

CDR Their quizzing the computer to find Guam.

CC Roger, I have no answer on that one Pete.

Good night.

PAO This is Skylab Control, Greenwich mean time three hours and ten minutes. We've had loss of signal over the Vanguard tracking station with anticipations of picking up further conversations at Ascension in approximately one minute and 40 seconds from now.

END OF TAPE

SL-11 MC-455/1

Time: 22:11 CDT, 10:03:11 GMT

6/2/73

CC Skylab, this is Houston over Ascension.
SC Oh, good morning, Houston. Is it 11:00
already?-

CC Roger. Your question about alarm clocks
and all made us do some work here, and we thought we'd dis-
turb you with one more comment so you could rest easy. We'll
be in contact with you over Texas it appears at 11:11, and
if you want to sleep until then, you will hear our melodious
voices waking you up.

SC Oh, thank you, thank you for your extra
11 minutes. Ahh.

SC And good night.

CC Good night, all.

PAO This is Skylab Control, Greenwich mean
time 3 hours 23 minutes, the close of day nine 9 the
Skylab crew of Charles Conrad, Dr. Joseph Kerwin, and Paul
Weitz. The mission control center has signed off and said
good night to the crew over the previous Ascension pass. Brief
summary of today's activities had mission controllers and
Commander Pete Conrad both describing today as a very good
day. Flight Director, Don Puddy, reported earlier this evening
everything went just exactly as planned and we met all our
objectives. Commander Conrad commenting on the activities
of today said the Flight Plan was excellent. Today's activi-
ties were highlighted by a successful EREP pass, which gathered
data on numerous Earth resources disciplines over more than
30 task sites between San Francisco, California, and Guadalajara,
Mexico. Flight Director, Puddy said we feel like we've got
data from the EREP pass. The Skylab crew also deployed the
SI83 ultraviolet panorama experiment. The objective of
which is to measure brightness in the ultraviolet range of
more than 1,000 stars and bright galaxies. The crew con-
tinued to man the control and display panel of the Apollo tele-
scope mount providing a space eye's view of the Sun. The Skylab
space station continues to cool down with the average temp-
erature now at 78.5 degrees Fahrenheit. Power production
and power usage are still stable between 3200 and 4500 watts.
Sixteen of the charger battery regulator modules are still
on line providing the necessary power from the ATM solar panels
to the batteries. The crew seemed to be in excellent spirits
and Skylab Flight Surgeon, Charles Ross, reported, following
the daily medical conference, that the crew was in good physi-
cal condition and reports no problems related to their living
in space. Tomorrow's activities, day 10 for the Skylab crew,
include a third EREP pass and continued monitoring of the ATM
telescope mount. Also scheduled for tomorrow, Scientist Pilot,

SL-II MC-455/2

Time: 22:11 CDT, 10:03:11 GMT
6/2/73

Joseph Kerwin, will be the subject of two medical experiments, M092, lower body negative pressure device and M093, vector-cardiogram experiment. The EREP pass scheduled for Sunday will be an 11-minute pass beginning off the coast of Eureka, California, running from northwest to the southeast. The pass will end just off the coast of the Yucatan Peninsula. The ground track will run approximately 2500 miles during which time the EREP sensors will accumulate data over approximately 32 task sites. Included in these sites are the northern California forests; Sierra, Nevada, Feather River Watershed in California; southern California; southern Nevada, Phoenix and Tucson for regional planning purposes; and agriculture and geologic mapping in Mexico. Sunday, June 3rd, will mark a first for Commander Conrad. At 05:00 hours and 17 minutes Greenwich mean time, the Skylab space station with the three crewmen aboard will have amassed 208 hours and 17 minutes. This total, with Commander Conrad, ties him with the space record of American astronauts with James Lovell at 715 hours and 5 minutes. For the Houston area residents, they'll have the opportunity, two opportunities Sunday morning to view the Skylab space station. At 4:35 a.m. the vehicle will pass from south to east and will be visible for 4 minutes and 23 seconds at an elevation of 16 degrees, at a range of 734 miles. A second pass running west from west to northeast at 6:11 a.m. central daylight time, it will be visible for 6 minutes and 14 seconds at an elevation of 32 degrees at a distance of 458 miles. This concludes the reports from the Public Affairs console at Skylab Mission Control Center, Houston. The next report will be at 6:00 a.m., Sunday, June 3rd. This is Skylab Control, Greenwich mean time 3 hours 29 minutes.

END OF TAPE

SL-II MC456/1
Time: 06:09 CDT
6/3/73

PAO This is Skylab Control; 11:09 Greenwich mean time. A minute and a half away from acquisition through the Goldstone tracking station. Actually Goldstone and Texas almost simultaneously. On the Flight Plan today are four ATM exercises. Four ATM runs with the solar astronomy experiments and telescope mount. And one Earth resources experiment package run on track number 6. Sounds like a train departure, any-rate track 6 has to do with ground track covered by the EREP pass. The crew should be awoken during this stateside pass and as much as their workday is based on a 6 a.m. Houston time, to 10 p.m. And this is the first station pass since the 6 a.m. wakeup time. Standing by on air ground for the commencement of air ground communications, CAP COM this morning is Bob Crippen.

CC Good morning, Skylab. We're AOS over the states for the next 15 minutes, for the next 15 minutes.

CC Skylab, Houston. Do we happen to have anybody in the area of the STS panel?

SC Don't be coy, Houston. What do you need?

CC Well, we were - noticed that Paul was going up and shutting down the caution of warning, like his morning checklist but apparently we got a caution and warning sensor, caution and warning 1 on AM 202 turned off - or rather open, and we'd like to verify that it is closed.

SC Which one, Crip?

CC Roger. It's on 202, caution and warning system sensors, caution and warning 1. That should be closed and it looks like it's open.

SC No, sir. Sensors caution warnings are closed. The only ones are as per the housekeeping 70, which is converter 1 and tone amp 1.

CC Roger. I understand you say it is closed and that the tone amp is open.

SC That's right. Do you want me to (garble) for you - see if it changes your status?

CC If it's not too much trouble, we would like a verification of it.

SC Okay. You want me to cycle the off ones on? Or the one you think is off - off, then back on?

CC Negative.

SC Negative what?

CC Do not cycle them.

SC Oh, okay.

SC Is that what you wanted?

CC Suppose so right now.

SC Once I leave, that's it. You're not going to call me back now, are you?

CC We wouldn't do that.

SC Okay.

SL-II MC456/2
Time: 06:09 CDY
6/3/73

SC Where - what station are you talking to us
through?

CC We're over the states now. We're just
about to go LOS. We're right over - right over Bermuda.

CC Skylab, Houston. We're 1 minute to LOS.
We'll see you again over Madrid at 11:32, 1132.

PAO This is Skylab Control. Brief gap in here
between the stateside tracking stations and acquisition through
Madrid and Canary overlapping. Space station will pass within
one degree of directly overhead at the Madrid station. Max
elevation, 89 degrees. Right across dia - -

END OF TAPE

SL-II MC-457/1
Time: 06:30 CDT
6/3/73

PAO Right across diagonally the middle of sunny Spain. The crew's stirring about now in the space station. Didn't respond to the first wake-up call. A minute and 50 seconds to acquisition at Madrid. Skylab Control standing by.

CC Skylab, Houston. We're AOS over Madrid for the next 9 minutes.

SC Roger, Crip.

CC PLT, Houston.

SC He's in the BMMD, Crip.

CC Oh, okay.

SC What do you need?

CC Okay. The - I fibbed to you awhile ago. There is another switch set that we'd like you check up in the STS, but it can be done at your convenience.

SC I'm on my way.

CC Well, okay. It's on 203, AIRLOCK MODULE FANS. We'd like to verify that all three CIRCULATION FANS 1, 2, and 3 are OFF, and that DUCT is in HIGH. It looks like to us that DUCT got turned OFF.

SC Houston, SPT.

CC Go, SPT.

SC You can read the odds and ends, but I don't understand what you're telling us on the star tracker.

CC Sorry about that.

SC (Garble) ATMC using backup OG angle up.

CC What we're saying, Joe, is that we turned off the star tracker last night, so we just wanted to get to your switch in the correct configuration. As a result of the star tracker being off, that the computer is now using the backup outer gimbal angle.

SC Ah, there's a period in there. Okay.

Okay, Crip, say it again.

CC Roger. Did you want me to say the switch check again?

SC Yeah, I was just looking for it.

CC Oh, okay. On panel 203, AIRLOCK MODULE FANS. We'd like to verify that the CIRCULATION FANS 1, 2, and 3, are OFF and that the DUCT fan is HIGH.

SC Okay, now we've got that configuration of the fans 1, 2 off, 3 HIGH and DUCT OFF.

CC Okay. We want DUCT FAN to HIGH and the CIRCULATION FANS should be OFF.

SC Okay, the three duct fans are off and the duct high.

CC Thank you, sir.

SC You're welcome.

SL-11 MC-457/2
Time: 06:30 CDT
6/3/73

SC Okay, Houston. SPT once again. How come we changed our mind about MO93? Gotten any word on that?

CC No, I don't have any good word on that. I think it was a political thing.

SC Okay, we thought it was a good decision but just wanted to ask. In the S082A door that (garble) I'd like to request that, and it's been done most of the time. When 82A wants it's door open, whether they're going to observe that rev or whether they simply want to be on the alert for a flare. That's the little statement. "82A door open, flare enable" to be put at the top of the - top of the pads.

CC Roger. I believe that's the normal way of doing it, but that will be done.

SC Yeah, well you see, you're note 1 implies that there's a judgment factor on a part of the crew and there really isn't. You look there and if it's there you open it and otherwise you don't?

CC Yeah, Joe, we were aware of that when we sent it up, but I guess we just wanted to emphasize it.

SC Okay.

CC And, SPT, Houston. No requirement for an answer right now, but for your information we didn't receive data on M133 all last night, and the people were wondering if you had any information as to why that might have been so.

SC You caught him in the scale.

CC That's good timing. Has Pete already been there, or can I wait a few minutes and catch him?

SC Well, he's watching Joe and taking his reading. Also, he's holding his breath while he's being weighed; very hard to converse with the guy when he's on the - in the scale.

CC Ah, yes, I'm aware of that. So I just thought it was good that I managed to catch two out of three guys there.

SC Well, we - nobody has apparently remembered seeing it on the Flight Plan yesterday, so the doctor didn't have his little hat on, although he did notice that today's Flight Plan said post 133. He figured you might mention it.

CC Roger. Understand he didn't wear it.

SC Right. I'm glad you didn't get data.

CC Never can tell with some of these electrons.

CC Skylab, Houston. We're about 45 seconds from LOS. We'll see you again at Honeysuckle at 12:19; that's 12, 19. For your information we had requested on the I think on the odds and ends message a repeat of the sound level meter readings and we did a little more research and found them, so that is unnecessary now.

SL-II MC-457/3
Time: 06:30 CDT
6/3/73

SC That's very nice, Crip, because there is
nothing more tedious than standing in a speaker box reading
a hundred numbers.

CC I agree.

SC Okay. See you later.

CC Roger.

PAO This is Skylab Control. Loss of signal
through the Madrid tracking station with the space station
now over the Libyan Desert. And 36 minutes to Honeysuckle
Australia tracking station. Crew up and about at this time,
preparing for the day's activities. Another rather busy day
of medical, astronomical, and Earth resources experiments.
At 11:43 Greenwich mean time; 35 minutes to Honeysuckle,
Skylab Control.

END OF TAPE

SL-II MC-458/1
Time: 07:16 CDT
6/3/73

PAO This is Skylab Control; 12:16 Greenwich mean time. A minute 50 seconds away from acquisition at the Honeysuckle, Australia tracking station. Standing by on air-to-ground for - Well, the warbler was a little late. There's an alarm warbler that goes off when we're 2 minutes from a tracking station - from acquisition. Standing by for the Honeysuckle Creek Australia pass, this is Skylab Control.

CC Skylab, Houston. We're AOS over Honeysuckle for the next 5 minutes.

SC Rog, Crip.

CC Roger. And I have a couple of pad updates that I'd like to give you if you've got time to copy. One's for the PLT and the other one goes on the ATM schedule pad and the SAP.

SC Okay. Wait'll I put my cornflakes down. Just a second.

SC Go ahead.

CC Rog. I hate to interrupt breakfast. For the PLT. On the bottom of his EREP prep pad, there is a remark that deals with installation of the primary 192 attenuator installation, and we want to delete that.

SC Okay. We got it.

CC Okay. Now, on the ATM schedule pad, on the last part of it under the - it's for the last pass at 5 minutes left in daylight, they have for unattended OPS to point at P, Papa, 62. We want to change that to Sun center and that's also applicable right below it where it says GMT of 7 minutes, 0007. Change that P62 target to Sun center.

SC Got it.

CC Okay. And new information for your SAP. We have an emerging active region, AR 23, located at 24/.5.

SC Okay.

CC Okay. And also the surges at east limb near Sierra 20 may herald new active region.

SC Say the coordinates again.

CC We're just getting surges at the the east limb near S2G.

SC Roger.

CC And for the CDR, I'm informed that you now hold the record for more time in space than any other man around, namely Shakey.

SC Holy Christmas! You mean I finally passed Captain Shakey. I can't believe it.

CC I think you've got him beat by a long way before this thing's over.

SC Send him my regards while he's off on his tug boat.

CC (Laughter) Okay. I'll see if that can't be done. And also, CDR, there's something we're contemplating

SL-II MC-458/2
Time: 07:16 CDT
6/3/73

down here that I'd like you to ponder. We're considering inhibiting TACs. At all times that it's not required, like for maneuvers and so forth. Namely, to preclude any inadvertent malfunction, emptying out what we've got left. I guess we'd kind of like an opinion from you out of that - about that.

SC Ah - -

CC You can think about it for a while - -

SC I presume you want to go to CMGs only at night then, huh?

CC We're talking about you just leaving it that way all the time, except for when you're doing the ZLV maneuver or something like that. But why don't you just think about that for a while and we'll talk about it later.

SC Okay. I guess there's a difference of opinion between your telemetry and us up here as to how much that TACS has been fired. It seems to me that it fires at a reasonable amount of time at night - night passes during the maneuvers that apparently you guys don't seem to think so. And I'm curious as what your normal consumption has been versus what you think it should be. That's number 1 and number 2. I want to think about it in view of the way the rate gyros have been acting all along. I'm not sure that it makes much difference. What do you think?

CC We're just about to go LOS here, and I'll see you again at Goldstone at 12:48, and we can talk about it there.

SC Okay.

PAO This is Skylab Control. We have had loss of signal through the Honeysuckle Creek Australia tracking station. Although we will have brief acquisition at Hawaii in 14 minutes, the next conversation likely will take place over Goldstone, starting the stateside pass in 21 minutes. Skylab today will make its third survey of the surface and atmosphere of the Earth, beginning at 2:22 p.m., central daylight time and lasting for 11 minutes. The pass, which follows groundtrack number 6, begins in the coastal waters of the Pacific near Eureka, California about 200 miles north of San Francisco, crosses Nevada and Arizona, cuts through the heart of Mexico and ends in the Pacific just south of Guatemala. Weather conditions over the United States are expected to be excellent with about 0 to 3/10 percent cloud cover for the 4,000-mile-long pass, which will include up to 32 areas to be scanned by photographic and other remote sensing equipment. In addition to the Skylab Earth Resources Experiment Package, known by the acronym, EREP, scientists on the ground will be recording data, and three specially equipped NASA research aircraft will fly over several sites in the western United States. The aircraft, a B-57, P-3A, and a C-130, all from Johnson Space Center in Houston, will take off from Edwards and Nellis Air Force Bases, and Alameda airfield on the west coast.

SL-II MC-458/3
Time: 07:16 CDT
6/3/73

Today's investigations include a substantial number of basic geological studies, many of them designed to establish methods for identifying geological formations using the data returned from the Skylab first manned mission. Dr. Mead Leroy Jenson of the University of Utah in Salt Lake City will use data expected to be acquired today to relate fracture patterns, vegetation, and rock coloration to known mineral deposits. This research may eventually lead to rapid identification of substantial mineral deposits using the data provided by sensors in space that can survey the entire globe. Mr. Carlos Castillo of the Instituto Mexicana del Petroles expects to use data acquired near Chihuahua, Mexico in the search for hydrocarbons, namely coal, oil, and diamonds. Other geological projects will map major geological structures, drainage basins, crustal features, and fault zones in Nevada and the surrounding areas. In northwest Arizona, assisted by the data acquired by sensors aboard NASA's C-130, Dr. Alexander F. H. Goetz of the Jet Propulsion Laboratory in Pasadena, California will attempt to map ancient, abandoned drainage systems using EREP information. Agriculture and forestry investigations will also be included in the EREP pass today. Robin I. Welch of the Earth Satellite Corporation of Berkeley, California will use Skylab and WB-57 data to demonstrate the classification and mapping of natural resources, specifically rice and range land, on a global basis. Welch's colleague, Philip G. Langely, will use both Skylab and WB-57 information to design an automatic pattern recognition system to perform forest inventories over large areas. Langley's site includes the heavily forested areas of northern California. The latest weather forecasts show that the southern Mexico agricultural site may be lost because of heavy cloud cover in Mexico. Another agricultural research project with substantial importance for the development of remote areas over the globe will be carried out by Dr. Nicolas Sanchez Duran of the Direccion General de Agricultura in Mexico. His project, using data from southern Mexico near the end of the EREP pass, will locate areas of erosion and improper land use and identify locations suitable for land and forest reclamation projects. But, as mentioned earlier, this portion of the pass may be lost because of the heavy cloud cover. A major pollution study, covering areas of California not monitored by ground stations, will be conducted by A. Earl Davis of the state of California's Earth Resources Agency. The project, concentrating on the Feather River area, is part of a wide-ranging study of water resources, wildlife, and the environmental impact of man in California. Urban growth since the 1970 census will be recorded by EREP sensors over Phoenix and Tucson, two of more than a dozen American cities to receive such attention during the 5 months of planned Skylab activities. In addition to these,

SL-II MC-458/4
Time: 07:16 CDT
6/3/73

a number of water management studies, including the mapping of the Feather River watershed, the detection of gully erosion in southcentral Arizona, and the recording of snow cover in the Sierra Nevada mountains, will be on the list of scientific studies to be provided data during the earth resources overflight this afternoon. All of these are essential elements in predicting and controlling floods and developing effective methods for managing land use and irrigation in the coming years. Should excellent weather conditions hold over the sites selected along today's groundtrack, an excellent return of data is expected from this third pass. Plans for additional passes during the coming weeks are now being detailed by scientists from several government agencies working at the Johnson Space Center. More than 150 principal investigators are participating in the EREP studies. Tropical storm, Ava, is some 225 miles south of the end point of today's EREP run but will not likely be recorded during this particular pass. Goldstone acquisition in 14 minutes. At 12:33 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC459/1
Time: 07:40 CDT
6/3/73

CC Skylab, Houston. We're AOS over Hawaii for about the next 14 minutes. Sorry about that, I gave you a wrong call on our next pass.

SC Roger.

CC And the correc - We can't keep our numbering systems going around here. That new active region I told you about while ago number is 24 vise 23.

SC Hey, Crip; CDP.

CC Go CDR.

SC We've talked it over up here and why don't you go ahead and implement your TACS deally. And we'd like to see everybody concerned there that we considered pros and cons and I don't see anything wrong with it.

CC Okay. I think we'll be typing you up a message to send up either later today or tonight to implement that. And regarding your concern over the number of TACS firing, I guess that there is a feeling here that you're hearing things that aren't really TACS, in some instances, and I guess that the next time you hear something fire, we'd appreciate maybe if you'd give us a call so we can check it with our telemetry.

SC Okay, it's pretty nearly always during the night passes. And I have not displayed the possibility of it being some (garble) phenomena as the vehicle cools down at night, but both of us agreed that it - We get - oh, two to four firings - legal firings relatively - two of them relatively close together to each other normally about the maneuver times during the momentum dump, but that could be not true also. You're - you're showing none, is that right?

CC That's affirm.

SC Kind of interesting, because something is making a pretty good noise out here in the evenings that very much resembles the real TACS firing because there has been occasions where we've been at the window and the TACS has fired and you could see the TACS fire. It sends out a nice big white cloud.

CC Rog. Hope it isn't somebody knocking wanting to get in.

SC Well, I'm sure the docking movies as we came up to the vehicle - it was doing a lot of TACS firing and I'm sure you'll be able to see that very clearly what it looks like. I'm kind of surprised. The Agena never gave out anything that you could see. So I was quite surprised - It was a cold gas system - and I was quite surprised to see the TACS could - was visible when it fires, but it is.

CC Rog. That was obvious to us on the TV when you came in for the docking.

SC Oh, you could see it oh TV, huh?

CC That's affirm.

SL-II MC459,2
Time: 07:40 CDT
6/3/73

CC We're about 1 minute until LOS and this next pass will be the Goldstone one at 12:48.

SC Oh, let me ask you another question. Not last night, but the night before last about - Oh 04 or 05:00 in the morning sometime, we had a decided change in frequency in one of the pumps and it took us a while to sort it out because it woke both Joe and I up. And we went on a little search party around the vehicle and we wound up concluding that it was in the refrigeration package. And my question is, did you guys switch a pump the day before yesterday in the evening or have we switched any pumps in that package or have you heard anything different?

CC Stand by. Pete, I'm told that we have not seen anything different. And I guess we really can't correlate anything to that particular time. We can have them go back and take a look at it. Understand it was like 04:00 to 05:00 yesterday.

SC Yes.

CC Okay. I guess I also lied to you about my LOS. We've still got it going here for a while.

SC Okay. It's no big deal, but we forgot to report it to you. I'd like on it to the change of pitch of the kind of noise we used to get from the glycol pump in the LM, except that was oscillatory. This switch just flat changed frequency and stayed at dire frequency and now we don't notice it anymore.

CC Rog.

PAO This is Skylab - -

END OF TAPE

SL-II MC-460/1
Time: 07:46 CDT
6/3/73

PAO This is Skylab Control, apparently we have had loss of signal through Hawaii. At loss of signal back at Honeysuckle Creek. CAP COM Bob Crippen said that he would not call the crew at Hawaii, but wait until Goldstone. But he called them anyhow. We're staying up for the brief gap across from Hawaii to Goldstone. Goldstone in less than a minute, at 12:46 Greenwich mean time. Standing by, Skylab Control.

CC Skylab, Houston. We're AOS over the states for the next 7 minutes.

SC Okay.

CC Skylab, Houston. We're 1 minute until LOS. We'll lose you for a little while and pick you up again over Bermuda at 13:00, 1300.

SC Roger.

PAO This is Skylab Control. Brief gap here in communications, as the space station crosses the northern portion of the country around the Great Lakes region. A gap between Goldstone, Texas, coverage before we come into the Bermuda tracking range. We're estimating a change of shift press conference at 8:45 CDT with flight director Milt Windler. 8:45 a.m. central daylight time flight director Milt Windler in the Houston News Center briefing room. Standing by for resumption of this stateside pass. At 12:56 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC461/1
Time: 07:57 CDT
6/3/73

CC Skylab, Houston. We're AOS over Bermuda for the next 6 minutes - for the next 6 minutes.

SC Houston, got a question about the computer flier dope you sent up. I can't really make it work out. If I put the - Wait - If I put the ascending node where you say, which as I remember was 135.7, at the time you said, which was an hour and 15 minutes ago, then we ain't suppose to be over the U.S. now.

CC Okay. I'll get somebody to look at that for you, Paul. I don't have that map with me.

SC Okay.

SC If we can - -

SC At this point I'm not sure of anything if you come back and tell me how to do it - do it right.

CC Okay. Stand by 1.

CC Skylab, Houston. We'll be LOS in about 30 seconds. We'll have you again over Canaries at 13:10, and at that time we will be doing a recorder dump. And also, Paul, we'll try to have an answer for you on your ascending node time and get that straightened out for your map.

SC Okay.

PAO This is Skylab Control, another brief gap here between Bermuda and Canary Island and Madrid coverage. At the start of revolution number 287, ground orbital measurements for Skylab space station: perigee 232.4 nautical miles, by 240.9 at apogee. Orbital period 1 hour 33 minutes 9 seconds. In the electrical power area, the ATM batteries state of charge stands at 71.5 percent of capacity. Internal ambient temperatures in the workshop are now in the 77 to 78 degree range. That gradually coming down. And it appears that the change of shift press conference with flight director, Milton Windler, may be delayed somewhat in as much as after he completes the morning management meeting, he is holding over some of his maroon team for review of tomorrow's Flight Plan before he breaks shift, even though he has handed over to the daytime ex - so called execution shift flight director, Don Puddy. Should have acquisition momentarily through Canary and Madrid; 13:09 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-462/1
Time: 08:10 CDT
6/3/73

CC Skylab, Houston. AOS for 8 minutes.
SC Hello.
SC Well, Good Morning, Bill.
CC How are you?
SC Terrible! I rode the stinking like before
breakfast.
CC I though I heard something grinding in
the background. It's good for you.
SC Not when it's me that's grinding.
CC PLT, Houston.
SC Go ahead.
CC Got some corrections on those nodes on
rev 286.
SC Go ahead, Houston.
CC Okay, some corrections on the nodes at
rev 286. At 12:38 - -
SC Hold it a minute, Bill - hold it.
CC Okay.
SC My friends are busy, and I just soaped
up. Let me finish drying and I'll be with you in half a minute.
CC Copy.
SC Okay, go ahead.
CC AT 12:38:31, it is 154.7 west. At
14:11:41, it is 178.3 west. And the 18:51 is correct. The
figure at 18:51 is correct.
SC Okay, thank you. Say, we've really
used this slider. I just can't say how glad we are to have
this thing along.
CC Copy.
CC Skylab, LOS in 1 minute. Honeysuckle
13:54; and PLT, if you would put the momentum inhibit in at
13:35 for the S183 experiment.
SC Roger.
PAO This is Skylab Control; 13:20 Greenwich
mean time. 34 minutes to Honeysuckle as the Skylab space
station went over the hill from Madrid and Canary Island
coverage. Now crossing northwest Africa. To repeat again,
it appears that the change of shift briefing with Flight
Director, Milt Windler, will be at or after 9 a.m. central day-
light time. Inasmuch as after he comes out of the morning
management meeting, he still has to review with his team,
tomorrow's Flight Plan, before turning over the initial or
preliminary Flight Plan to the incoming team. At 13:21, back
again in 33 minutes for Honeysuckle Creek, Australia. This is
Skylab Control.

END OF TAPE

SL-II MC463/1
Time: 08:53 CDT
6/3/73

PAO This is Skylab Control; 13:53 Greenwich mean time. Less than a minute away from acquisition through the Honeysuckle Creek tracking station in Australia. Almost directly over this station this pass. Total time of 9 minutes 18 seconds. Standing by for Honeysuckle.

CC Skylab, Houston. AOS for 10 minutes.

SC Roger, Houston.

SC (Music)

SC Little church call for you, Houston.

CC What happened, somebody let Joe slip a

bugle aboard?

SC We run everything in top military fashion

on this ship.

CC Copy.

CC Skylab, LOS in 1 minute. Hawaii at 14:14.

SC Roger.

PAO This is Skylab Control. LOS Honeysuckle Creek. Skylab space station next tracking will be over the Hawaii site, there again almost directly over the station. Almost 10 minutes total pass time, and we're about 9 minutes away from acquisition at Hawaii. Flight director, Milt Windler is still scurrying around the building trying to nail down the preliminary Flight Plan for tomorrow. And he has no specific estimate as to when he will arrive at Building 1 for the change of shift press conference. His estimate consisted of, it'll be a while yet. At 14:05 Greenwich mean time, 9 minutes to Hawaii, this is Skylab Control.

END OF TAPE

SL-II MC-464/1
Time: 09:13 CDT
6/3/73

PAO This is Skylab Control; 14:13 Greenwich mean time. About 50 seconds from acquisition at Hawaii. We'll stay up during the brief gap between Hawaii and Goldstone and the subsequent stateside pass at the end of revolution 287 and start of 288. Standing by, Skylab Control.

CC Skylab, Houston. AOS, 10 minutes.

SC Hi there, 10 minutes. The results of the CO test show, as near as I can interpret - interpolate color chart, 10 to 15 parts per million.

CC Copy, 15 parts per million.

SC 10 to 15.

CC Copy, 10 to 15.

CC SPT, Houston.

SC Go ahead.

CC We would like for you to look out for S009 opening one more time. The approximate time is 14:22:08.

SC God bless you. Hey, what's the leak rate of the cluster, Houston? Have you guys had a - time to get a hack on it, in pounds per day? I'm curious whether it's below spec or what?

CC We're checking on that, Joe, and we'll get back with you.

SC I guess all you can give us, Houston, is total usage and if that looks normal or not, because Joe - they don't really know how many times we used the trash airlock, Pete just pointed out.

CC Okay.

SC Houston, SPT.

CC Go, SPT.

SC I'd like to make a recommendation regarding the south Atlantic anomaly and now we have the horns. As a reason or requirement for turning off the S056 high voltages? What this is boiling down to, it looks like is two or three times per pass, you may see something in there, turn it off, turn it on. As you know, we missed it in the pass. And I like to make the following recommendation that on the ground based on the amount of radiation expected and the expected degradation of the high voltage detectors, that the - You people make a determination whether or not the high voltages ought to be on for that stateside pass. And put it at the top of the pass, much as you put the 82A doors and so on. We have added to our powerdown operate/fix pass in our sunside prep checklist, the words high voltage, beryllium, and aluminum - off, at the end of the day and on at the beginning of the day, which will take care of any passes that occur during the night hours. In other words, we will repeatedly power those things down and suck that it and will power them up again at sunrise, if the ground recommends. Now, if we have something powered up and we get

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a flare alarm, I think we've learned our lesson on that, I really do. We will look to see if we're in the anomaly before we take action. Over.

CC We copy that, Joe; and we'll have a look at it.

SC Thank you.

CC Skylab, Houston. So far as we can tell, the gas leakage is not detectable by the mass studies that are being done here.

SC Okay, thank you. Well, what it was, we were discussing how carbon monoxide, you know, how we get rid of it. We decided it was essentially a function of the leak rate, and as long as the leak rate was low, we were going to have some.

CC That sounds reasonable. And the leak rate is apparently very low.

SC Rog.

SC This is the CDR.

CC Go, CDR. We're standing by, CDR.

SC Roger. I was taking care of squeaky SIA there. S183 star field 252, I think it was, 301, this pad's completed on time.

CC Copy. And, Pete, when you have the time we'd like for you to bring up the star tracker.

SC Okay.

SC Okay. Okay, it will be a few minutes, Houston. I'm just getting starting on this pad.

SC All right, Houston, CDR. Go ahead and give me the star tracker pad and I will - I understand. We have the pad. I'll bring it up for you.

SC You've got the pad.

CC CDR, Houston.

SC Did you just figure out the same thing I just did? It's not available.

CC CDR, could you tell us if the film was returning to the carousel in the 183?

SC If the film was what?

CC Was returning to the carousel. There is supposed to be an audible click when it does. There is some indications down here.

SC Oh, it's doing its thing just fine. As a matter of fact, now that you mentioned it, I forgot to turn on the tape recorder 1.

SC (Garble)

SC But it's doing its thing okay.

CC Copy.

SC I show on this star tracker pad, that the stars available for day 33 to day 55, and data for day 52, 56. Why, we won't have the stars until 33.

CC Copy.

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CC CDR, we think the star tracker pad is
valid and we're going LOS in about a minute. We'll see you at
Goldstone at 14:25.

SC Okay.

PAO This is Skylab Control at 14:24 Greenwich
mean time. Change of Shift Press Conference should begin at
about 9:30, for all news persons in the Houston area.
The Johnson Space Center News Room, with Flight Director,
Milt Windler, now enroute to the News Center from the Control
Center. We'll record on tape the upcoming stateside pass for
playback at the conclusion of the press conference. At 14:25,
Skylab Control, out.

END OF TAPE

SL-II MC465/1
Time: 10:05 CDT
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PAO This is Skylab Control, 15:06 Greenwich mean time. Skylab space station now in revolution 288, off the southwestern tip of the African continent. Just had loss of signal through Ascension Island station. Next station coming up in 21 minutes will be Carnarvon, Australia. We have a total of 13 minutes accumulated recorded playback of the stateside and Canary Island, Ascension passes, which we'll play back at this time. Skylab Control at 15:07.

CC Skylab, Houston. AOS Goldstone for 9 minutes.
SC Roger, Houston.
SC Houston, I got some data on the coronagraph I'd like for you to copy.
CC Go ahead, Joe.
SC Okay, trying to visually center the occulting disk in the TV display, I approx - and these - these numbers are approximate. NOUN 63, and left 75, appears to center the disk, (garble) satisfactorily.
CC We copy.
SC And Houston, the figures I gave you were fine sunsets or wedge angles. Let me now give you the crosspoint or readings. Over.
CC Go ahead.
SC With the scale in times 10, the vertical crosspointer is right, 75; the horizontal crosspointer is up 13.
CC Copy.
CC SPT, we're standing by for your TV.
SC Okay.
SC Are you getting this live, Houston?
CC That's affirm.
SC Okay, I still have the coronagraph on the monitor and I'll leave it there for a minute.
CC Copy.
SC You can see contamination balls crossing the field of view.
CC Copy.
SC Either that, or I've discovered a new planet.
That's H-Alpha 1.
CC And Skylab, we're about to perform a nav update.
SC Roger.
SC And Houston, turn the XUV monitor.
CC Go ahead.
CC Skylab, LOS in 1 minute. Bermuda at 14:37.
SC Roger, Houston. What answer I guess we're going to need eventually is whether the SOS2 PI wants us to tweak up the coronagraph manually before we use it? Or do we continue to center the needles as we have in past.
CC Try to get you an answer Joe.

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Time: 10:05 CDT
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CC Skylab, Houston, AOS for 9 minutes.
SC Houston, SPT.
CC Go, SPT.
SC Okay, having a little problem right now determining whether S072 is operating or not. Of course, we have - you know, no door talkback and no ready light, no operate light and I don't see the frames remaining counter decreasing. Ask your guys could check on it, if they have any telemetry on it. And secondly, I wonder whether we are going to leave the doors the way they are forever, or are the PI people still talking that one over?

CC Joe, it's not centered and the out-of-limit discriminator is inhibiting, so it is not operating. And the door's question is being worked at this time.

SC Okay. I guess that answers my previous question that we cannot operate this thing with the disk manually centered, can we?

SC Because the discriminator won't let it.
CC That's affirmative and proceed on operations as you have in the past on that, Joe.

SC Okay.
CC Joe there is some question on the procedure that's being worked up here and we'd appreciate your comment and the procedure that's being considered is placed in the EVA alternate door switch and INHIBIT and then operating the doors manually except for 52 - Correction 54 - 54.

SC EVA auto door to INHIBIT and doors manually except for 54 which would remain open all the time. I think that's right.

CC That's affirm.
CC Any comment you have would be appreciated.
SC Let me think that one over for a minute,
Bill.

CC Okay. Joe, your query on manually tweaking the coronagraph disk, they simply they want you to operate as you have in the past on that one.

SC Aye, aye.
CC Skylab LOS in 1 minute; AOS Canary 14:47.
SC Roger.
SC Hey, Houston, the PLT. I just tried to - maybe plate 8 did not retract into the carousel on 183. I'm just trying to advance it. It will not advance.

CC Copy.
SC I'll be standing by for some good words
next AOS. When was that?
CC Two minutes.
SC Okay.
CC Still sctarching.

SL-II MC465/3
Time: 10:05 CDT
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SC I figured that.
CC Skylab, Houston; AOS for 17 minutes.
SC Roger.
SC Houston, CDR.
CC Go CDR.
SC The M009 package isn't supposed to do anything when it's in reset, right? Other than be closed?
CC Stand by half. CDR, the word here is that M009 is open when you go to reset. It will close.
SC Well, Houston, that's the second time that thing's done that to me. It was in reset, close, and I turned the power off and turned it back on 5 minutes before initiate and my little buzzer went off. And I went up there to initiate it and just as I was waiting for the time to time out, the package opened all by itself to the switch configuration power on and initiate reset switch had reset. So it's running by itself. It's got a mind of its own.
CC Copy.
SC If anybody wants to research that, Bill, I believe that the trainer had exhibited that tendency in the past also.
CC Copy.
CC SPT, Houston.
SC Go ahead.
CC You should be able to astar - to acquire Acamar with the pad that you have onboard at this time.
SC Okay.
SC Hello, Houston, PLT.
CC Go, PLT.
SC A completely new and different and unrelated item, Bill. These fan screens are picking up quite a bit of trash and dirt. I guess we'd like to schedule that fan cleaning, housekeeping operation next time you can fit it in and I think we're going to have to do that about every 3 days.
CC Copy.
CC PLT, that is scheduled - Housekeeping is scheduled for tomorrow at 14:35.
SC Go - go ahead, Houston.
SC Hey, Houston, you there?
CC Go ahead.
SC Did you call the PLT?
CC The squeal cut you out. Say again.
SC Did you call the PLT?
CC Yes, PLT. Housekeeping is scheduled for tomorrow.
SC Okay, good. And as I say, we'll need it about every 3 days, I think, Bill.
CC We copy that.

SL-II MC465/4
Time: 10:05 CDT
6/3/73

SC Houston, SPT. Did you power down the
star tracker by DCS?
CC Stand by. That's affirmative. That was
accomplished last evening.
SC Ho Ho. So I've got to give it a
star track align 30 136. Is that right?
CC You should only have to hit the power
switch, Joe.
SC Okay, I may have to (garble).
SC Okay.
SC Houston, you there?
CC Go ahead, Skylab.
SC I'm wondering if maybe I turned the power
off prematurely prior to the sequence finishing after going
to standby on the S183 on the last pass. I've been sitting
here smoking over the malp procedures. Would it hurt to turn
the power back on? Of course it is looking at the back of
the airlock door right now - It's pitch black in there and
set up a shread exposure and let it cycle on frame 08 to see
if it completes the cycle.
CC Pete, what we'd like for you to do is to
turn the power on - go to STANDBY and then cycle the power to
see if that does it.
SC Need cycle STANDBY to - start and then
back to STANDBY?
CC That's affirm, Pete.
SC It's a quick cycle.
CC Pete, at this time we want you to bring the
power off and then back on, leaving it in STANDBY.
CC That's the sequence switch in STANDBY.
SC Okay, I need - did your other thing if
something happens.
SC Houston, CDR.
CC Go, CDR.
SC What's the block 7 on page 7-5? Should -
We should give that a whirl?
CC Stand by half, Pete. They're trying to come
up with one.
CC Pete, go ahead on step 7, on your malp pro-
cedure. That's block 7 - block 7.
SC Roger.
CC Pete, if you don't get this fixed, we want
you to enable momentum. We're about to go LOS here.
SC Okay.
CC And if you cancel on this experiment, go
ahead and clean any screens that need it and we'll adjust
tomorrow's Flight Plan accordingly. We're going LOS in 1 minute.
We'll see you in Carnarvon at 15:29.

SL-II MC465/5
Time: 10:05 CDT
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SC
momentum.

Roger, Houston. If we cancel, we'll enable

CC

Roger.

PAO

This is Skylab Control. That concludes play-back of the stateside pass and Canary Island and Ascension Island passes recorded during the Change of Shift Press Conference. Nine minutes to Carnarvon, and Honeysuckle, Australia, stations. During the recorded conversation, Skylab commander, Pete Conrad, went over some troubleshooting with the S183 experiment which is the ultraviolet panorama camera. The science pilot, Joe Kerwin, at this time is involved in solar astronomy experiments in the Apollo telescope mount. And pilot, Paul Weitz, should be doing some housekeeping chores around the space station at this time. Later today, starting at 2:22 p.m. central daylight time, there is an 11-minute Earth resources experiment package, or EREP pass, beginning in the coastal waters of the Pacific about 200 miles north of San Francisco, crossing Nevada and Arizona, extending on down into Mexico, and ending as the ground track crosses into the Pacific Ocean again, just south of Guatemala. This is ground track number 6 and will be the third EREP pass in the mission. At 15:22 Greenwich mean time; 7 minutes to acquisition at Carnarvon and Honeysuckle Creek stations in Australia. This is Skylab Control.

END OF TAPE

SL-II MC-466/1
Time: 10:27 CDT
6/3/73

SC Houston, be advised S183 - that half procedure step 7 did not work, so we enabled momentum dump, and we're standing by.

CC We copy that, Pete.

SC (garble)

CC Copy.

PAO Skylab Control. Early acquisition at Carnarvon following through to Honeysuckle Creek. We'll leave the line up for a brief Guam pass.

CC SPT, Houston.

SC Yes, sir.

CC We have a note for you to the ops for S54 - S054 door failure.

SC Okay.

CC One: place the EVA AUTO door switch to INHIBIT and operate all doors manually, except S054. Second step: tape over the S054 door switch, avoid DAS close commands for the S054 door. That command is for 01:42. Third step: enable motor power for S054, S052. DAS command on that is 4 two balls 55.

CC SPT, Houston. We have another note for you.

CC SPT, Houston.

SC Hello, again, Bill. 15:35:10 S009 went to OPEN.

CC Copy.

SC Whatever S009 is.

SC Okay, and you were cut out just as you were about to tell me the command it was that I'm never supposed to use, so you can skip that and tell me anymore you got.

CC Did you get to the third step: enable motor power for S054/S052?

SC No, you didn't. And I expect we are to enable the primary motor. Is that correct?

CC And the DAS number for that one is 4 double balls 55. That's 4 double balls 55. And we're going LOS here. We'll see you at Guam at 15:43.

PAO This is Skylab Control. A 5-minute gap here between Honeysuckle Creek and a very brief Guam pass, slightly over 2 minutes. Space station just barely over the horizon from above the horizon from Guam. We'll leave the circuit up for Guam and Hawaii. At 15:39, Skylab Control.

END OF TAPE

SL-II MC-467/1
Time: 10:42 CDT
6/3/73

CC Skylab, Houston. AOS, 3 minutes.
Skylab, Houston. AOS for 3 minutes.
SC Houston, SPT.
CC Go, SPT.
SC Okay. I think I got your whole procedure.
Let me question what affect, if any, this is going to have
on the fine sun sensor door? I think I remember correctly
that that door will open and close on its own provided we're
in EXPERIMENT POINTING. Is that right?
CC Joe, to prevent contamination, we want
that door manually cycled, and you are going to have to manually
cycle that door.
SC Is that right? I didn't think that door
was through the ENABLE switch? Our schematic doesn't seem to show
it that way.
SC Yeah, I double checked that, Bill, because we
don't understand it to be this way.
CC Yeah, there's a question. Stand by half.
The consensus here, Joe, is that it's on - the switch is
common to that fine sun sensor door, so that it will be disabled
when you flip the switch.
SC That's not right.
SC That would mean that we would be in EXPERI-
MENTS POINTING with the fine sun sensor off, and that's not very
good medicine.
CC Okay.
SC The consensus up here says that we already
have a data point from last night that's not right that there's
nine doors that go through that, and the fine sensor is separate
from signal.
CC We copy, Pete. Joe.
SC What's the story? Do you want us to
go to INHIBIT. Is it different in INHIBIT?
SC That being the case, we'd be better off in
storage, if there's a difference between storage and inhibit.
CC There - There is a difference in the
doors, fine sun sensor doors and storage and in inhibit, Petc.
SC Then why don't we use storage. That
way it protects the fine sun sensor and everybody's happy.
CC If we go to storage, it will close the
54 door when we enable S052 power.
SC Okay. I'm beginning to see what you're
saying.
CC And, SPT, if you still copy, I have
an answer have on your quest about the horns in SA8.
SC Go ahead.
CC They want you to leave the S056 high
voltage on all day, so that they can look at scheduling for
it.

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Time: 10:42 CDT
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SC Okay. All day today we'll leave it on,
and I'll bring it on again right now.

CC Okay. Now the tone and light on the
flare alarm has been tripping, and so we want you to continue
to disable that per pad.

SC Okay. Well, we'll work that up here.
We'll probably disable it at night.

CC Copy, Joe.

SC And on this other one, I'm still not -
you know, these doors are kind of complicated circuitry, and
it's easy to close them all at the end of a pass, but if we
stay in EXPERIMENT POINTING mode and come out on the Sun side
with the fine sun sensor doors closed, I want to know if we're
going to get into any malfunction trouble on those switches.
I want to know if it's required to go to solar inertial first
(garble). Matter of fact, I'd like you guys to teleprinter
up (garble) power down (garble).

CC Joe, we're LOS. We'll see you at Hawaii
at 54.

PAO This is Skylab Control in a gap now
between Guam and Hawaii. We'll simply leave the circuit up
live for Hawaii and for the subsequent stateside pass on
revolution 288. Skylab Control, standing by at 15:50.

END OF TAPE

SL-II HC468/1
Time: 10:54 CDT
6/3/73

CC Skylab, Houston; AOS 3 minutes.
SC Roger.
SC Bill, just to be super safe, let me
confirm something. If I go into night with the S052
experiment safed, then I'll come out with it safed, as long
as I don't touch the main power switch. Confirm, please.
CC That is affirmative, Joe.
SC Okay.
SC Houston, SPT.
CC Go, SPT.
SC Have an observation to make for the
training people primarily. We're doing a building block
on prominence 62 today, just now. And it's completely in-
visible as a prominence on H-ALPHA, unless I get the
disk completely off the screen. And at that instant it
blossoms into view. It's a beautiful large prominence
about one minute of arc in length, sticking up from the disk
there like a great big sore thumb. But I can't see it at
all unless all of the disk is out of the (garble). Gives
it a chance to open up.
CC We copy that, Joe.
SC That conflicts with something I said
on tape the other night.
CC Okay.
CC Skylab, we're going LOS here. We'll
see you at Goldstone at 16:05.
SC Okay.

END OF TAPE

SL-II MC-469/1
Time: 11:04 CDT
6/3/73

CC Skylab, Houston. AOS for 13 minutes.
SC Roger.
SC And Houston, where do you have us right
now?
CC Sorry, Pete, say again.
SC Where are we, Goldstone?
CC That's affirm.
SC Okay. If you want to check the TV, it's
on.
CC Thank you.
SC Say, Houston, are you getting the TV?
CC Stand by half, Pete. We're working
that one.
SC Okay, because it's - (laugh) the best thing
that the TV shows so far is the contamination on the window.
CC Copy.
SC Houston, SPT.
CC Go. Houston standing by.
SC Okay, a note for the ATM PIs, a JOP 4, step
2 and step 3, I'm going to use the same positioning in point-
ing because there's only one orientation in which I can fill
the slit, even though this is a bad orientation for 82A. On
step 3B, I will roll and give 82A a good dispersion.
CC We copy that, Joe. Thank you.
CC Pete, you caught us one early on the TV.
We were expecting it the next rev. However, Goldstone is
receiving it nicely and if you would give us two revs of it
as you come over the states, we would appreciate it.
SC Oh yeah, no - I was setting it up for
next pass, but I just wanted you to know it was on if you
wanted to check it.
CC I see. Okay, Pete, you - -
SC As you see, in the middle lower third, lower
fourth of the picture is our wardroom window ice crystals.
SC Copy.
CC SPT, Houston.
SC Go ahead.
CC ATM would like for you to check your
graying on S055 and proceed normally.
SC Yeah. I'm proceeding abnormally a little bit.
In the first place, the pad is confusing at a glance because it
says mechanical reference and then underneath it, it gives
you a grating position, which is off mechanical reference.
The other thing is that when you start - when you start out
a path in optical references, which we customarily use, you
either have to go once completely around to set the thing
to mechanical zero, or you have to use it on setting reference

SL-II MC-469/2
Time: 11:04 CDT
6/3/73

to optical zero, which will give them the mechanical setting they want. And that's what I've been in the process of figuring out. And about to get a raster in optical 762, which ought to be equivalent to mechanical 864, which is what they wanted, or 874.

CC

Copy, Joe.

SC

I think they'll understand.

CC

Yeah, the medic - -

END OF TAPE

SL-II MC470/1
Time: 11:18 CDT
6/3/73

CC Skylab, Houston; AOS Ascension for about
5 minutes.
SC Roger.
SC Houston, Skylab. Sometime at your leisure,
would you remind us how many exposures are on a roll of
Nikon color exterior.
CC Wilco.
SC While you're at it, how about the color
interior?
CC The color what?
SC Interior film.
CC PLT, Houston.
SC Go.
CC Can you take a change in the maneuver pad?
SC Houston, SPT. How long is this pass?
CC It's - less than a minute. Are you ready?
SC No.
CC Okay.
SC All right, go ahead, Houston. And I'll
copy it in blank verse.
CC All right. After a momentum analysis, they
want to make some changes in the starting time of the ZLV mode.
That's on line 3. The GMT, make that 19:16 visces - vice 19:17.
That will change your maneuver times. On line 4, the second
time becomes 50006, vice 50005.
SC Roger.
CC Okay.
CC And the second correction, the third time
becomes 06, vice's 05. On lines 9, change that 50005 to 50006;
and change the time from 06 - correction, from 05 to 06. And
line 15, change 42 to 45 degrees. We're going LOS now. I'll
see you at Carnarvon.
SC Okay. I got the pad and I'm 2 minutes
further behind on each end.
CC And we're sending up a new drift compensation
on Y1.
PAO This is Skylab Control; 16:41 Greenwich
mean time. Twenty-two minutes to Carnarvon, Australia, tracking
station. Both the Carnarvon and Guam passes are virtually
directly overhead from maximum duration on this particular
revolution number 289. During the upcoming stateside pass,
toward the end of the revolution 289, there will be some
12 minutes of live television; most likely out the wardrobe
window toward the Earth. Back again in 21 minutes for
Carnarvon and Guam. This is Skylab Control, at 16:42.

END OF TAPE

SL-II MC471/1
Time: 12:03
6/3/73

PAO This is Skylab Control; 17:03 Greenwich mean time. About 1/2-minute from predicted acquisition at Carnarvon. Straight overhead at Carnarvon, crossing the coast right at the station - Western Coast of Australia, tracking on the north - -

CC AOS for 7 minutes.

SC Houston, SPT.

CC Go, SPT.

SC Hey Bill, I'm sorry I snapped at you on that last pass. Just that I thought the pad was going to be shorter than it was. And so I said to Paul, I'll copy it, I've got it up here. And I was behind through my own fault.

CC Hey, Joe. I didn't even notice the snap.

You must be - -

SC Oh, I take back everything I just said then. Well - tell the PIs I got it all done, except that one good exposure on 82A and I'll get that at the beginning of the next pass.

CC We're copy.

CC Paul, Houston.

SC Yeah.

CC The answer on your Nikon frames is

60. That's 60 on both types of film.

SC Okay. Thank you, Bill.

SC Also, Houston; SPT repaired that nutty gyro problem during LOS. Are you guys looking at it?

CC We are.

CC SPT, Houston. We indicate that the XUV doors are still open here. That's the XUV monitor door.

SC Roger.

CC Skylab, Houston. We'll be LOS in about 1 minute; Guam at 17:17. And, PLT, Houston. Correction - SPT, Houston.

CC Skylab, we're going LOS, and we will see you at Guam at 17:17; in the blind.

END OF TAPE

SL-II MC472/1
Time: 12:17 CDT
6/3/73

CC Skylab, Houston; AOS for 10 minutes.
CC SPT, Houston.
SC Go ahead.
CC We have an indication that 82A was missed
the last time. Just continue on normal OPS on the next pass
and there's no problem on it. Also be - -
SC Well, Houston, as I told you last AOS, I
would like very much to get that one exposure; namely, building
block 6 Bravo. I left the canister pointed at the prominence
and I'd like to snap that one off before I go sun center.
CC That's acceptable, Joe. Also, be advised
that the X-rate gyro is spinning up. It's not on the line.
It's just coming up.
SC Is that X3?
CC That's affirmative - X3, and it's just
being warmed up.
SC Okay, understand. We wondered - I was
just looking at the gyro rates and I wondered why a gyro that
wasn't powered up should have a rather high negative rate like
that.
CC Copy - -
SC I think minus 0992.
CC Copy.
CC We tried to reach you, but a couple of min-
utes before the last pass was over, we lost comm with you.
SC Roger.
CC Skylab, LOS in 1 minute. AOS Goldstone,
17:43.
SC Roger.
PAO This is Skylab Control. Apparently we have
had loss of signal through the Guam station. 14 minutes to
stateside pass, beginning at Goldstone with out-the-window
view, in the wardroom picture window across the states, coming
across the Puget Sound area, exiting around the east coast of
Florida, just south of Kennedy Space Center. Back again in
13 minutes with a rubberneck tour from 240 miles. At 17:29
Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-473/1
Time: 12:42 CDT
6/3/73

FAO This is Skylab Control; 17:41 Greenwich mean time. Minute and a half out from Goldstone for a fairly lengthy stateside pass, including television out the window, out the wardroom picture window. We're standing by for initial contact, voice contact, and, hopefully, downlinked television picture. At 17:42 and standing by, Skylab Control.
CC Skylab, Houston. AOS for 17 minutes at Goldstone.

CC And we have TV down here.

SC Houston, SPT.

CC Go, SPT.

SC Roger. Let me ask the white light coronagraph guys a question. When I'm Sun center and I cycle the MAIN POWER from STANDBY back to ON does the mirror go to the camera position? Over.

CC Stand by 1.

SC How's your picture, Houston?

CC It's solid. SPT, Houston.

SC Go ahead.

CC Joe, it's the camera position only if you select a mode and are running.

SC Okay. Well, what happened to me was I came up Sun center, turned the MAIN POWER to ON, and went ahead and issued a start command, thinking that either it would already be a camera or it would go there after the first frame. It took 12 pictures, and then I selected TV MONITOR to the WHITE LIGHT CORONOGRAPH position and there was the Sun sitting there looking at me, which - which shouldn't be. Uh, so I am assuming that I did not take any exposures and I'm repeating the standard mode. And I can't explain it.

CC Copy.

SC Boy, you sure can see where the floods have been.

CC We copy, Pete. Looked as if you were getting a picture or two of your own there.

SC Yeah, this is the first good weather we've had along all this route.

CC What was your river there, the Missouri or the Mississippi, that you came across?

CC SPT, Houston.

SC Go ahead.

CC Could you verify for us that you've put the EVA AUTO DOOR switch in INHIBIT. And the second item: we would like you to perform the DAS 40055, which powers up the motor.

SC But I haven't done that yet. I wanted to observe the behavior of the doors with the switch in INHIBIT. I'll do that next dark side. Meanwhile, I'm (garble) S052 before I move.

SL-11 MC-473/2
Time: 12:42 CDT
6/3/73

CC Without the motor power on, without that
DAS command, you're not going to be able to take pictures on
S052.

SC Don't understand that. That's what we've
been doing for the last day. Houston, the S052 door is open.
It's been open since - since yesterday.

CC We're copying you, Joe.
PAO Crossing the Cape. Commander Conrad
apparently taking some Hasselblad pictures out the window.
Bahama banks.

SC Houston, SPT. Is that not right, what
I surmised, that we have been taking pictures with S052?

CC Joe, better say that one again.

SC I said, "Is it not correct that we have
been taking pictures with S052?" You said something about we
haven't been or couldn't.

CC Joe, our information is that you have
not been taking pictures on S052 in that mode.

SC I don't understand why. That was the mode
you put us in yesterday. The door is open and when we go MIRROR
position to CAMERA and ACTIVATE, hell, we've shot a 100
frames since then, doing our normal building blocks. Tell me
what's the problem is.

CC Stand by, Joe. We're trying to get to-
gether here. Joe, it's just since you've put the EVA AUTO
DOOR switch to INHIBIT that you haven't been taking pictures.

SC Well, it's been cycling film through the
camera. The frame count has been decreasing. The door is open
and we're Sun centered. Now, why haven't we been taking pic-
tures?

CC Stand by, Joe. They say that the mirror is
in TV position, Joe.

SC Well, I manually moved the mirror to the
CAMERA position. The second time around the TV image disappeared.
Are they saying it went right back to camera the minute I gave
it a start command, or what?

CC No, they say your okay, if you did the
manual movement.

SC Oh, okay, okay.

CC We're going LOS here in about a minute.

SC Fine, take it then that we got all the
pictures we were supposed to on S052, but wasted one group
of frames.

CC That's affirmative, Joe. And we'll see
you at Carnarvon at 18:43.

SC Okay.

SL-II MC-473/3
Time: 12:42 CDT
6/3/73

PAO This is Skylab Control; 18:00 Greenwich
mean time. Loss of signal through the Bermuda station. Begin-
ning of revolution 290; 16-minute live TV pass across the
continental United States, great deal of cloud cover, and
next station coming up is Carnarvon in 42 minutes. Away from
Carnarvon we miss Vanguard and Ascension on this particular
revolution. During the television pass, one could see
Commander Conrad frequently in front of the camera taking
still pictures out the round picture window in the wardroom.
He apparently was not aware that he was partially blocking
the TV image. At 18:01, back in 41 minutes for Carnarvon.
Skylab Control.

END OF TAPE

SJ-11 MC-478/1
Time: 14:36 CDT
6/3/73

PAO This is Skylab Control; Greenwich
mean time 19 hours 37 minutes. Mr. William C. Schneider,
Director of the Skylab Program Office, NASA Headquarters,
will hold a press conference in the newroom at building 1
at 3 p.m., central daylight time. To repeat, Mr. William C.
Schneider, Director of the Skylab Program, NASA Headquarters,
will conduct a news briefing in the briefing room in build-
ing 1 at 3 p.m., central daylight time.

END OF TAPE

SL-11 MC-478/1
Time: 16:44 CDT, 10:19:44 GMT
6/3/73

PAO This is Skylab Control, Greenwich mean time 19 hours and 44 minutes. We anticipate acquisition over the Vanguard tracking station in approximately 30 seconds. We will hold the line up for conversations between Skylab Control with Dr. William Thornton, Cap Com, and the Skylab crew.

CC Skylab, Houston, AOS ten minutes.

CDR Roger, Houston. And be advised we have a new one for you. We got a master alarm (SM and we have an STS (garble). The oxidizer is reading 160. When I went into there to answer the alarm I reset the master alarm and it came back on again before I quite got it over to the changes, but I did notice that the OPS pressure was operating but it appears to have stabilized at 160.

CC We copy, Pete.

CC Pete, we're looking at that pressure and we're reading 162 and it's been holding relatively constant in that region for some time.

CDR Okay, well that's well out of the GREEN for us up here and ours has been showing in the GREEN up until - or at least it has this morning when PJ looked at it, so how long you been looking at that? Could it be a thermal problem or we got a CAUTION and WARNING that's very close to that that the power's build up of something.

CC We're looking at it Pete.

CDR Okay.

CDR We're not going anywhere so we'll wait for you.

CC Copy.

CC CDR, Houston.

CDR Go ahead.

CC We've been tracking this since day 147 and there's a good correlation between the temperature which has been falling from 66 - it's now showing 44 degrees and the pressure has fallen in that time from 174 to 163 so we think it's the thermal effect.

CDR Okay. Shall we go inhibit the SPS (garble) light on the inhibit panel?

CC We recommend that, Pete.

CDR Solved another one for today. Thank you.

CC That thing trips at 162, Pete, so it takes very little to do it.

CDR Yeah, I wish you guys could have given us a clue.

CC Skylab, Houston. We'll be LOS in about a minute and a half here. Goldstone, AOS at 20:59.

CDR Roger, Roger.

CC If you still read, Pete, we have 15 completes, 15 completes.

SL-II MC-479/2

Time: 14:44 CDT, 10:19:44 GMT

6/3/73

CDR Fifteen completes on what?

CC That's on the CBRM's on the batteries.

CDR Oh, okay, very good. I'm playing at EREF
and wasn't thinking about that.

PAO This is Skylab Control, Greenwich mean time
19 hours 57 minutes. We have had loss of signal at the Vanguard
tracking station. Next acquisition will be one hour and two
minutes from now over Goldstone. Discussion between Cap Com
Bill Thornton and Commander Pete Conrad followed the caution
and warning light from the command module which indicated a
malfunction or a problem in the oxidizer tank of the service
propulsion module. Commander Conrad went down and reset the
switches and the pressure is presently at 162. The ground
has advised him that the pressure has been dropping the last several
days from 174 several days ago, to its present reading of 162.
The ground thinks this a thermal problem and procedures will
be worked out to bring the pressure back up in the oxidizer
tank. This is Skylab Control, Greenwich mean time 19 hours
58 minutes.

END OF TAPE

SL-II MC-480/1

Time: 15:02 CDT, 10:20:02 GMT
6/3/73

PAO Skylab Control, Greenwich mean time 20 hours 2 minutes. We have LOS after the Vanguard pass. Next station will be Goldstone in approximately 52 minutes. Mr. William C. Schneider, Director of the Skylab Program Office, NASA headquarters is scheduled to begin a press conference in the Building 1 news room momentarily. We will keep the line down during the press conference and replay any air-to-ground over the Goldstone pass. This is Skylab Control 20 hours 3 minutes.

END OF TAPE

SL-II MC-481/1

Time: 15:58 CDT 10:20:58 GMT

6/3/73

PAO This is Skylab Control, Greenwich mean time 20 hours 58 minutes. We anticipate acquisition of the Skylab space station as it crosses into the Goldstone tracking area. At this time the Science Pilot, Dr. Joseph Kerwin should be performing the M092 and M093 experiments with Commander Conrad serving as the observer. Pilot Paul Weitz is at the ATM control and display panel. We'll pick up any live air to ground at this time.

CC Skylab Houston. AOS for 4 minutes.
CC Skylab squeal blocked you.
CDR Roger.
CC CDR Houston.
CDR Go ahead.
CC There is a request to look at the parasol, especially the color of it, and report at your first opportunity.

CDR Okay, do you want that right now. We can go look at it right now if you want.
CC No no, just when ever it's convenient.
CDR Okay, we'll get you a report later on today on that.

CC PLT Houston.
PLT Go ahead.
CC We're sending up an S183 malfunction and check out procedure. And we show you have not inhibited MOMENTUM DUMP, and we would like for you to accomplish this.

PLT You want momentum dump inhibited now?
CC Negative, negative. That was the wrong call.

PLT Okay.
CC We do not, repeat, do not INHIBIT MOMENTUM DUMP.

PLT Okay, I didn't inhibit it.
CC And be advised on PCG number 7, we are going to enable the amp hour meter to observe it.
PLT Okay.
CC That's the secondary amp hour meter.
PLT Rog.
CC And Skylab, we're going LOS. We'll see you at Vanguard 21:21.

PAC This is Skylab Control, Greenwich mean time 21 hours 05 minutes. Capcom Dr. William Thornton, requested Commander Conrad at the crew's earliest convenience today, to look at the parasol. The parasol Sun shield, which the crew deployed on their second day in space on May 26.

SL-II MC-481/2
Time: 15:58 CDT 10:20:58 GMT
6/3/73

The parasol was installed to provide thermal protection for the orbital workshop. And the crew has been asked to look at it, especially to look at the color of the covering. The covering is 22 by 24. It was installed through the solar scientific airlock on the second day of the mission. This is Skylab Control. We've had loss of signal at Goldstone. The next pass is at Vanguard in 15 minutes. This is Skylab Control at Greenwich mean time 21 hours 6 minutes.

END OF TAPE

SL-11 MC- 482/1

Time: 16:19 CDT, 10:21:19 GMT

6/3/73

PAO This is Skylab Control, Greenwich mean time 21 hours 19 minutes. Skylab space station on it's - finishing it's 297th revolution is expected to come into contact with Vanguard tracking station momentarily. This will be a 10 minute pass. We'll hold the line up for any conversations between Cap Com Dr. Bill Thornton and the Skylab crew.

CC Skylab, Houston. AOS one zero minutes.

SPT Rog. Houston.

(Music)

CC We didn't want Joe going to sleep in the tank so that was a courtesy of the Flight Director.

FLT Did you hear that, Joe?

CC Go ahead.

SPT I'm on M093, but thank you.

CC Should have done something to the VCG then.

SPT There you go.

SPT Who's Flight today?

CC Yeah, that was Dr. Puddy.

SPT Ah so.

END OF TAPE

SL-II MC-483/1

Time: 16:25 CDT, 10:21:25 GMT

6/3/73

CC PLT, Houston.
PLT Hello.
CC PLT, please leave the SO-56 high voltage
power ON, that's the high voltage POWER ON S056.
PLT Okay. You want the beryllium and aluminum
high voltage power left ON.
CC That's affirm.
CC Also, PLT at your opportunity would you
identify the screens which were vacuumed today?
PLT Yeah, in a minute, I'm shut down.
CC No rush.
CC And Skylab, LOS in one minute, AOS Hawaii

22:30.

PLT Whee, an hour from now. Okay, the screens
that were cleaned - the wardroom screen, the portable fan, the
OWS mixing chamber inlet screen, the MDA fans one and two and
the CSM. Also, the mol sieve inlet screens and the airlock circ
fans inlet screens.

CC We copy that.
CC And you have an S-183 malfunction procedure
pad onboard now.

PLT Let's see, okay.
PAO This is Skylab Control, Greenwich mean time
21 hours 32 minutes as we lose signal over the Vanguard tracking
station. Cap Com Dr. Bill Thornton arranged to play a - the
Air Force Song as the ground thought Dr. Joe Kerwin was still
performing the MO-92 experiment. However, he had completed
that experiment and he was riding the bicycle ergometer as
part of the MO-93 vectorcardiogram experiment, which is per-
formed about 14 times on each crewmen during the 28-day flight.
The crew also commented on the number of screens that they cleaned
in the workshop today. This is part of the weekly housekeeping
chores the crew is required to do as part of the housekeeping
and maintenance operations of the vehicle. The MO-93 experi-
ment is - the principle investigator is Dr. Newton Allebach of
the Naval Aerospace Medical Research Institute of Pensacola
Florida. Next acquisition is over Hawaii in 56 minutes. This
is Skylab Control, Greenwich mean time 21 minutes - excuse me -
21 hours 33 minutes.

END OF TAPE

SL-II MC-484/1

Time: 17:29 CDT 10:22:29 CMT

6/3/73

PAO This is Skylab Control, Greenwich mean time 22 hours 29 minutes. We will have acquisition over Hawaii momentarily for almost an 8 minute pass.

CC Skylab Houston. AOS 8 minutes.

CDR Hello Houston, CDR. How do you read?

CC Go Skylab, you've got a squeal.

CC Skylab Houston, standing by.

CDR Okay Houston, I'm getting rid of the squeal. Checked the sail or the parasol. And the orange is getting a little faded. I would say that it looks like that orange survival material, but it is back to gold. It's getting a little more yellowish than orange not brown. But, not bad.

CC Does everything else look in place and stable and unchanged Pete?

CDR Yes it does. It looks exactly the same.

CC Thank you.

CDR With regard to S183. I followed your procedures and there wasn't quite, it was half way in and half way out. However, there was no way to withdraw the plate. I successfully got the magazine out and it closed according to the procedures and put it away. And I had the plate half way in and half way out. So I put the SAL power cable back on, turned the power on and it went through the rest of the cycle and took the plate out. I couldn't get it out manually. And Flopped over to 09. Now my question is, is the canister exact at 08 or is the canister exact at 09 or is it somewhere in between? And what would you like for me to do now that I've got this plate in my hand and S183 is sitting at 09?

CC We copy that Pete. And we'll get you an answer back. While we're waiting for that Pete, a number of updates and such. The flight plans are going to be coming up and are coming up and we're leaving 45 minutes in the flight plan tomorrow for that. Also be advised that Hawaii's configured for XUV monitoring on TV.

CDR Okay.

CDR Okay, go ahead Houston.

CC CDR, Houston.

CDR Go ahead.

CC They want you to put the blank door on the 183 and to store and evacuate the canister. That's on the - -

CDR That is (garble) the 183 is going down right now and as soon as I get a vacuum on it, I'll evacuate the film subcanister.

SL-II MC-484/2

Time: 17:29 CDT 10:22:29 GMT

6/3/73

CC We copy that.
CDR What would you like me to do with the
plate? Bring it back or get rid of it?
CC Pete, we would like for you to bring
that plate back if possible.
CDR Okay.
CC PLT place the video switch into ATM-2.
SPT Houston the PLT is in the middle of
changing building blocks at the moment and he'll get to the
TV if he can.
CC We copy that.
SPT I think he had another double mode on
S056, which always pulls things down.
CC We copy.
SPT We've got another little message for
you Houston.
CC Go ahead.
SPT In case the flight director is uneducated,
that's Victory at Sea.
CC The, we may see Dr. Puddy cry today yet.
SPT Eat your heart out, earthlings.
PLT What do you want on the XUV, Bill?
CC Thank you sir.
PLT Houston, what do you want on the XUV?
CC Stand by.
CC PLT, we wanted that as the video ATM
switch in mode 2.
PLT Affirmative.
CC Skylab LOS in about 30 seconds. We'll
see you at Vanguard at 22:59.
CDR Roger Houston.
PAO This is Skylab Control, Greenwich mean
time 22 hours 39 minutes. With the strains of Anchors
Away, Skylab space station passed over, out of the range
of Hawaii tracking station. Commander Pete Conrad discussed
with the ground the changeing color of the parasol sun shade,
which the crew put out on the second day of the mission.
He said it looks a little more yellowish than orange and
looks exactly the same as when they deployed it. Dr. Joseph
Kerwin plugged into the ground the theme of Victory at Sea,
theme song from the TV series of several years ago, and reminded
the flight director and said "eat your heart out you earthlings."
And with the strains of Anchors Away, we'll drop the line
and come back up at Vanguard in 19 minutes from now. Sky-
lab Control at 22 hours 40 minutes.

END OF TAPE

SL-II MC- 465/1

Time: 17:58 CDT, 10:22:58 GMT

6/3/73

PAO This is Skylab Control 22 hours 58 minutes as the Skylab space station approaches the sphere of the Vanguard tracking station. We expect conversation between Cap Com Dr. Bill Thornton and the Skylab crew. Science Pilot, Joseph Kervin should be just have completed a physical training exercise aboard the spacecraft and normally the crew rides the bicycle ergometer to - on this exercise.

CC Skylab, Houston. AOS 9 minutes.

CDR Roger.

SPT Houston, got a couple of questions for you.

CC Go ahead, SPT.

SPT Okay, number one. Would the PI's like the SO-56 high voltages left on tonight or have they got it updated?

CC Stand by half.

CC While we're waiting for that Joe, would it be possible for you to run 133 tonight using one of the caps from 412? This was supposed to have gotten up last night but it didn't make it.

SPT You betcha.

CC Thank you, sir.

SPT Okay. (Garble) Okay, I have a confession to make, Houston. I was late making my radiation VIL and I didn't get all the measurements, so would you re-schedule that for me please?

CC I missed part of that one.

SPT Okay, I have radiation one, two, three, and four this afternoon and I was late and didn't get the readings in the anomaly like I'm supposed to, so would you please re-schedule that?

CC We will re-schedule that one.

SPT Okay, and last thing for the moment, Houston. We've looked at a stowage book in attempting to follow your - the instruction at the end of your last pass. We cannot find the anchor? Where is it please?

CC We've never known the Navy yet to launch a ship without an anchor. We couldn't imagine you not having a couple aboard.

SPT We're going to have to use the G&C sails.
(Laughter)

CC We copy.

CC And we won't have SO56 high voltage off. We'll turn it on again tomorrow, Joe.

SPT Roger.

CC CDR, Houston.

CC PLT, Houston.

PLT Go ahead.

SL-11 MC-485/A

Time: 17:50 CDT, 10:22:58 GMT

6/3/73

CC
OFF at your convenience.

PLT

We'd like for you to turn the VTR power

Okay.

END OF TAPE

SL-11 MC-486/1

Time: 18:04 CDT 10:23:04 GMT

6/3/73

CC SPT Houston.
SPT Go ahead.
CC Pete had a question on the 183 carousel.
We'll send up a procedure to verify its position before its
used again, if in fact it's ever used again. We will - -
SPT Roger.
CC We will run tomorrow with the DAC on
the 183, so we won't be using it all tomorrow.
SPT Okay.
CDR It will run with just the DAC and not
stick the film carousel back in huh?
CC That's what they're planning for tomorrow
Pete.
CDR Well look, are you sure that I didn't
hang it up? I don't think I did, but it is entirely possible
I could have shut it off at mid sequence. But, if I did
I guess it should have (garble) huh?
CC Pete, when you remove that thing in the
removal procedure there is a half turn or some such there
that is supposed to advance it, and they think it is in the
09 position.
CDR Oh, let me tell you what happened now.
It's in - I couldn't get the film slider out because it was
only about halfway and it was all locked up in there. And so
I put the SA1 power cable back on just like you guys said to do
and it went chuck, chuck, chuck through the rest of the
step and spit the film slider out by itself and flipped over
to 09. That's exactly where it is. It's in 09 ready to
go and I guess the film carousel is too.
CC That's what we assume Pete, we under-
stand that. I was talking referring to the film carousel
being advanced to 9.
CDR Okay, is there some way we can check that?
CC Pete, they will send up a procedure on
the carousel if they ever use the carousel again.
CDR Okay. Now of course we've got the other
carousel up here you know. Don't forget that. It may be
bad film, but it can't be that bad can it? Or is it wiped
out?
CC Pete, because of maneuver constraints
tomorrow probably is the last time 183 will be run. And
in the future, we'll consider that other canister.
CDR Okay.
CC And we're going LOS here in about 30 sec-
onds. We'll see you at Hawaii at 00:06.
CDR Okay. Bill, if you see or give my wife
a call, tell her that I miss her. I will not be home for

SL-II MC-486/2
Time: 18:04 CDT 10:23:04 GMT
6/3/73

dinner, but I will mow the lawn as soon as I come home.
And that I hope the kids said a special prayer at church today
for all the sky troops.

CC We'll call her, Pete.

PAO This is Skylab Control. Greenwich
mean time 23 hours 9 minutes. Capcom Bill Thornton dis-
cussing with Commander Conrad the difficulties with the
Si83 ultraviolet panorama camera, which is the experiment
of Dr. George Courtes of the Laboratory of Astronautics and
Space of Marseilles, France. His experiment apparently jammed
up earlier, and it was his recommendation to take the car-
ousel of film out and return the exposed film. And tomorrow
the crew may have procedures to put the data acquisition
camera in place of that and attempt to get more data for
Dr. Courtes. As the spacecraft begins its 294th revolution
after passing the tracking station at Vanguard, Science
Pilot Kerwin asked the Capcom Dr. Thornton to call his wife,
"Give my wife a call and tell her I will not be home for
dinner," but he will mow the grass when he gets home and
he hoped the kids said a special prayer at church this
morning for the Skylab troops. This is Skylab Control
at Greenwich mean time 23 hours and 11 minutes. Our next
acquisition over Hawaii tracking station in 55 minutes.

END OF TAPE

SL-II MC-487/1

Time: 18:12 CDT, 10:23:12 GMT

6/3/73

PAO This is Skylab Control, Greenwich mean
time 23 hours and 12 minutes. We've had a change over at the
Mission Control Center with Flight Director, Don Puddy of the
crimson team, turning over controls of the MOCR to Flight
Director, Neil Hutchinson, who heads the silver team. On-
coming Cap Com will be Dr. Carl Henize, astronaut Dr. Carl
Henize. Next acquisition Hawaii tracking station in 53 minutes.
This is Skylab Control.

END OF TAPE

SL-II MC-488/1

Time: 18:42 CDT, 10:23:42 GMT

6/3/73

PAO This is Skylab Control, Greenwich mean time
23 hours 42 minutes. Flight Director, Don Puddy will be in
the news room in building 1 in 10 minutes to answer newsmens
questions. However, there will be no formal Change-of-shift
briefing. He will be available in 10 minutes to answer ques-
tions. This is Skylab Control at 23 hours 43 minutes G.m.t.

END OF TAPE

SL-II MC-489/1

Time: 19:20 CDT, 11:00:00 GMT

6/3/73

PAO Skylab Control, Greenwich mean time 00:20 minutes. We've just had a pass over Hawaii during the previous press conference with Flight Director, Don Puddy. We'll bring up that line now. During that conversation Cap Com Dr. Story Musgrave, who is a member of the backup crew discussed with the crew the fact that the procedures for the proposed EVA will be passed up by teleprinter tomorrow to the crew for review and then on Tuesday, the plan is to hold a discussion with the crew for a couple of revolutions on the procedures. Discussion will also be viewed by television from the spacecraft. Pick up that live conversation now.

CC Skylab, this is Houston standing by for 10 minutes.

CDR Hi, there, Houston. Skylab, here.

CC Skylab, if you have a minute to discuss the M-131 data we'd like to strike a compromise with you there. We would like to have complete first-run data on all three crew members recorded on channel B and this means that we would like to have all the first-run data on the CDR and we'd also like to have the page-4-20 data on the PLT which hasn't been reported yet. Then we promise that we won't ask for more.

CDR Okay.

CDR Say, Carl, where do we give you these status report (garble)?

CC Evening status reports going to be over Vanguard. That's the next AOS.

CDR Okay.

CC CDR, Houston.

CDR Go ahead.

CC We're planning on an EVA this coming week to deploy SAS panel number 1 and possibly also to lock open S054 door. Next evening we'll send up on the teleprinter some procedures for you and also talk them over with you real-time to limited extend tomorrow. The day after tomorrow that evening, Tuesday evening, we'll have maybe two or three revs discussing the procedures with you, including probably a TV conference for that EVA.

CDR A TV conference. You guys happy to work something out over there huh, sir?

CC Yeah, it's looking pretty good. I haven't been to it myself because I've been right here, but from the sounds of it, it looks pretty good. It's basically a five pole extension with a cutting tool on the end of it and grabbing hold of the strips at the SAS wing, tying down the near end to the fixed airlock shroud. And this will give you an EVA trail going out there.

CDR Very good.

SL-II MC-489/2

Time: 19:20 CDT, 11:00:20 GMT
6/3/73

CDR We aim to please. We're more than happy
to do anything we can.

CC Skylab, Houston. We have 30 seconds to
LOS. We'll see you over Vanguard at 00:38. We will be dump-
ing recorders there and we'll be standing by for an evening
status report.

CDR Okay.

PAO This is Skylab Control at 00:23 minutes
Greenwich mean time. Next acquisition will be over the Van-
guard tracking station. In 14 minutes, we'll have a seven
minute pass at that time. This is Skylab Control, Greenwich
mean time 00:23 minutes.

END OF TAPE

SL-II MC-490/1

Time: 19:37 CDT 11:00:37 GMT
6/3/73

PAO This is Skylab Control, Greenwich mean time 00:37 minutes. We expect a air to ground coming up over the Vanguard tracking station with Capcom, Dr. Carl Henize. This pass is the regularly scheduled evening status report, from the crew.

CC Skylab, this is Houston, standing by over Vanguard for the next 7 minutes. We will be dumping recorders on this pass.

CDR Okay Houston, Roger.

CC And a couple of other notes. The evening questions will be onboard shortly. And whoever is going up that way might be reminded to turn the Seive B fan on for the night. Another reminder is we will want the AM circ fans off tonight.

CDR The (garble) are off forever.

CC Okay. One other note is that we will be turning off the primary AM coolant loop. And you can expect a flow line on the caution and warning.

CDR Okay.

CC Pardon me.

CDR The CDR.

CC Pardon me, they tell me we're turning it on instead of off.

CDR Okay.

CDR Okay, for the meals, the CDR ate everything except the snack, coffee with sugar.

CC We copy.

CDR Okay the SPT, ate everything today except his snack lemonade. And he ate 4.5 optional salt, excuse me the CDR had 7.0 optional salt.

CC Roger.

CDR PLT, did not drink his coffee with sugar for breakfast. Didn't eat all of his lunch and the corn he did not eat at dinner and he had half of his bread, 2.5 optional salt, 1.0 Delta H2O, that was plus 1.0 Delta H2O. And he says he has given up on the corn, and he does not intend to eat it any more, and he would like the people to look around for a substitute if possible, if not he'll take pills for it. I think all 3 of us have kind of given up on the corn, although the other 2 of us are still eating it to some degree, because it just doesn't reconstitute very well. I can't put my finger on it, maybe it's because it is not hot. The other thing that the PLT did today was he drank a grape drink, which he says he is sorry about, because, he thought it was free, it turns out it is not, so you'll have to add one grape drink to the rest of his stuff, maybe he can give up a pill.

CC Okay.

CDR Okay, the photo lodge status report for day

SL-II MC-490/2

Time: 19:37 CDT 11:00:37 GMT
6/3/73

154 is: 16 millimeter in the EREP free PH0176. Take up is not applicable. M151, N092, PC1030, M701, S183 is a UA0385, take up is not applicable. Thirty-five millimeter, TI26 frame count 31. ZX22 frame count 60 (garble) 50. Seventy millimeter ZX05, 128, EREPs 190A set Q came back 17462, 2 is 9662; 3 is 7183; 4 is 6570; 5 is 8337; 6 is 7240. The drawer A configuration stands as follows Alfa 1 is 02, Charlie (garble) 0585; Charlie India 01. Alfa 2 is 03; Charlie India 0319; Mike Tango 10. Alfa 3 is 04; Charlie India 0430 Mike Tango 01; floating is 05; Charlie India 25, 100 percent; Mike Tango 11.

CC We copy.

CDR There were no flight plan deviations other than RAD 1, 2, 3, and 4, which the SPT didn't have enough time to get off. So we'd like to reschedule that one. He'd like to know if he could do it next pass when we're in the anomaly? The stowage items were accomplished today from checklist transfer (garble) the command module work load takes, at least one full hour. It shouldn't be scheduled that way, in the future and in future flight. I don't think there is anything else in the evening status report. It was another good day as far as (garble) went. We got all the work accomplished. We had time to do some troubleshooting. And we liked the flight plan, we got it all done.

CC Roger, Pete. Thank you for the good report. And flight says our apologies for not having a flight plan onboard yet, but we'll have it up there before you go to bed.

CDR Yeah, you guys (garble) up in the air.

CC Rog. We've got about 40 minutes to LOS. We'll see you in about 8 minutes from now, and you might ask the PLT to stand by for a star tracker pad at that time.

CDR Okay.

CC And we would confirm that we like the RAD survey over the anomaly on the next pass. Thank you.

CDR Roger, and will be done.

PLT Give me a starting time for that Carl, if you can?

CC Stand by.

CC 02:14, 02:14.

PLT Thank you.

CC We'll be in the anomaly 12 minutes on that pass.

PLT Okay.

PAO This is Skylab Control. Greenwich mean time 00:47 minutes. Capcom Carl Henize received the evening

SL-II MC-490/3

Time: 19:37 CDT 11:00:37 GMT

6/3/73

Status report from Commander Pete Conrad, and also advised the crew that to turn the MOL Sieve fan off, the sieve the molecular Sieve, MOL Sieve is the molecular Sieve which is a pair of devices located in the airlock module which remove carbon dioxide and water from the Skylab atmosphere. At the latter part of the evening status report, Commander Conrad read off some long numbers about the film usage and such. And the numbers identified the locations in which each film was placed in the film canister numbered and they are placed in certain locations in the multiple docking adaptor. Commander Conrad also reported that today Sunday, the 10th day of their mission, he reported it as another good day, and all the work was accomplished on the flight plan. This is Skylab Control at 00:48 minutes. We'll leave the line up for the next pass which is at Ascension in approximately 6 minutes.

END OF TAPE

SL-II MC-491/1

Time: 19:49 CDT, 11:00:49 GMT

6/3/73

CC Skylab, Houston standing by for five minutes
over Ascension.

PLT Roger.

CC And I have the star tracker pad for the
PLT at his convenience.

PLT Okay, the PLT just happens to have a pad
format out of his SWS update book, so go ahead.

CC Roger. The star is Achernar. After 5,000
we have a zero; day, 3400; day, 5500; inner gimbal, minus 0052;
outer gimbal, plus 1160; valid 1550000 21 a 0000. No remarks.

PLT Got it Carl, thank you.

CC Okay.

CC Pete, we have a possible discrepancy down
here on the EREP frame reading. We'd like for you to confirm
the frame reading on EREP mag 5.

CC And, Paul. That star's not available until
about orbital noon and it's - we can't really acquire it at
the present time.

PLT Then I guess I don't understand the pad.

PLT Houston, the CDR says the EREP takes five
frames remaining in 8337.

CC We copy. 8337, thank you.

PLT Go ahead and explain to me why the star
isn't available.

CC Roger.

PLT Let me tell you how I'm interpreting it
instead.. Day 34 to day 55 to me means that when this clock
says 35, 34 minutes of daylight remaining which includes
that and goes all through the night time and until it says
55 minutes of daylight remaining means the star's available.

CC Stand by on that. We've got 14 seconds to
LOS and we will have a - we'll see you over Vanguard in about
an hour from now, 02:15. We will have a recorder dump at
that time and that will be the medical conference.

PLT Okay.

CC Paul, your main problem at the present
time is there is a momentum dump in progress. Your inter-
pretation was correct otherwise.

PLT (Garble)

CC Your interpretation of that pad was cor-
rect but at the present time there is a momentum dump in
progress.

PLT Oh, and it's a vehicle. Okay, good.
That explains it.

CC Great.

PAO This is Skylab Control, Greenwich mean
time one hour 00 minutes. We have just lost acquisition

SL-II MC-491/2

Time: 19:49 CDT, 11:00:49 GMT

6/3/73

of the Skylab space station on its pass at the outer limits of the Ascension tracking station. Cap Com Dr. Carl Henize was passing up to the crew a star tracker pad for the star tracker on board which is the device that provides star reference to the Apollo telescope mount attitude pointing control system as the vehicle goes on a night side of an orbit in the solar inertial attitude. The tracker is normally fixed on stars Achernar and Canopus and Acrux. Next pass will be over Vanguard in one hour and 14 minutes from now. This is Skylab Control at Greenwich mean time one hour and 0 minutes.

END OF TAP:

SL-II MC-492/1

Time: 20:32 CDT, 11:01:32 GMT
6/3/73

PAO This is Skylab Control, Greenwich mean time one hour 32 minutes. Monday June 4th, Skylab space station will carry out an EREP pass, EREP pass number four along track number 19. This pass will begin at 17:04 Greenwich mean time as the spacecraft passes over Rapid City, South Dakota. The track will carry the spacecraft over Nebraska, Iowa, Missouri, Kentucky, Tennessee, Georgia, out over the Atlantic Ocean and cross the Virgin Islands and Puerto Rico. This pass will cover agriculture sites as well as regional urban sites and some photography will be made of the weather conditions that presently exist in the central part of the United States. In support of tomorrow's EREP activities, several NASA aircraft will be airborne to make underflights of the ground track. These flights are scheduled to be carried out in Atlanta, Georgia, as well as the Black Hills in South Dakota. The track will cover approximately 3,000 miles beginning with the data take over Rapid City, South Dakota, crossing over Atlanta, as well as Savanna, Georgia and the Virgin Islands and Puerto Rico. This is Skylab Control at Greenwich mean time one hour 34 minutes. Next acquisition of the Skylab space station will be over the Vanguard tracking station in 41 minutes. This is Skylab Control.

END OF TAPE

SL-II MC-493/1

Time: 21:14 CDT, 11:02:14 GMT
6/3/73

PAO This is Skylab Control, Greenwich mean
time two hours and 14 minutes with anticipated acquisition
over the Vanguard tracking station. This is probably the
final pass for conversation with the crew tonight before the
crew retires in the orbital workshop. We'll hold the line
up for any possible conversation.

END OF TAPE

SL-II MC-493/1

Time: 21:14 CDT, 11:02:14 GMT
6/3/73

PAO This is Skylab Control, Greenwich mean
time two hours and 14 minutes with anticipated acquisition
over the Vanguard tracking station. This is probably the
final pass for conversation with the crew tonight before the
crew retires in the orbital workshop. We'll hold the line
up for any possible conversation.

END OF TAPE

SL-II MC- 494/1
Time: 21:27 CDT, 11:02:27 GMT
6/3/73

CC Skylab, this is Houston standing by for
11 minutes over Ascension.

CDR Rog, Houston. We were doing our normal
race around the upper end there before going to bed and I
have the answers to the questions. Are you ready?

CC Okay. We're standing by.

CDR Question number one is the only time we
get a response, with the (garble) - Where are we at? I think
it was either active region 17 or 14 - I don't remember which
one it was but they would remember. It had the large Sun
spot on, we could see that. We haven't seen any since then.
Okay, answer to question number two the GR cleaning. We used
the standard package of 10 and that's been sufficient. Three,
the deposits sort of look like graphite or the dark dirt,
black, fine and they show up on the pitch roller on the tape
ZP-5. And the threading is normal. We haven't seen anything
that's not normal, on that. Number five, the take up reel
(garble) appears normal. And that is yes, it does seem perfectly
normal. The small fuzz that you saw on the TV pictures today,
question number six is our friendly wardroom window ice crystals.
Still with me?

CC Roger, we copy.

CDR Okay, question number seven. When was S-191
cooler turned on? At 18:58 Zulu. Did you notice excessive drag
when (garble) advancing (garble) EREP after pad? The answer is
no. And which (garble) do you think we will ask when - we will
have to vacuum every three days? And that's all of us. And
all three.

CC Okay, Pete, we copy.

CDR And that takes care of all the questions.

CC Okay. Thank you very much. We have one
small point of information for you. We will be setting up
the rate gyro configuration tonight for - so that the re-
dundancy management is operating and this makes it less likely
that we would be waking you up in case one of the gyros failed.

CDR Say, when we are going on CMG's only?

CC Say again.

CDR When are we going to the CMG only config-
uration you were talking about this morning?

CC Stand by.

CC Pete the word on that is we'll probably
try that tomorrow night.

CDR Okay, Carl, very good. We'll see you in
the morning. Now, what's our first station pass (garble)?
Do we have to wake up?

CC Stand by.

CC Skylab, Houston. Our passes tomorrow morn-
ing are as follows, we can wake you at Madrid at 10:50, or

SL-II MC-494/2

Time: 21:27 CDT, 11:02:27 GMT
6/3/73

you can set your alarm clock. The next pass after Madrid would be Honeysuckle at 11:30.

CDR

Okay, we'll set our alarm and for (garble).

CC

Okay, we expect that you will set

your alarm.

CDR

Okay, and the last thing is that the add

to the CDR's food tonight a can of butter cookies and add

to the PLT's food tonight a can of butter cookies. (Garble)

CC

Okay, we copy.

END OF TAPE

SL-II MC-495/1

Time: 21:34 CDT 11:02:34 GMT
6/3/73

CC Skylab Houston. One minute to LOS.
See you in the morning. Good night, sleep tight.

PLT Okay, goodnight, Carl.

PLT Houston, if you are still there, the
rolly polly CDR said add another can of butter cookies to
his chow today.

CC Hey, you guys are going to be getting
fat up there, be careful.

CDR You guys are working us so hard, we
need all this energy.

CC Roger.

PAO This is Skylab Control. Greenwich mean
time 2 hours and 40 minutes. The Skylab crew obviously
still in good humor and good spirits reported to the ground
they will set their alarm clocks to wake up Monday morning
at 6:00 a.m. Houston time. Sunday, the 10th day of America's
first manned orbiting scientific laboratory has been described
as another good day of Earth and space research. Approxi-
mately 7 hours of manned observations of the Sun were con-
ducted by the crew of Skylab today. Crew members, Commander
Pete Conrad and Science Pilot Medical Doctor, Joseph Kerwin,
and Pilot Paul Weitz accomplished all the work detailed
them by the flight controllers at the Houston Mission Control
Center. The crew's 16 hour day began at 6:00 a.m.
Houston time and is scheduled to end at 10:00 p.m. this
evening, when the crew retires to their individual sleep
compartments in the orbital workshop. Science Pilot Kerwin
will don the sleep monitoring cap tonight, the M133 medical
experiment is scheduled to be worn by Dr. Kerwin at least
15 times throughout this mission. Systems wise temperatures
continued to decrease in the Skylab space station. Current
temperature in the workshop is 77.5 degrees Fahrenheit. The
vehicle still is furnishing limited power and as the 16 re-
maining CBRMs, charger battery regulator modules, through which
energy from the ATM solar panels are passed into batteries
aboard the spaceship. The ATM solar array contains
164,160 cells and the 4 windmill type panels on the ATM.
Monday's schedule includes the mission's 4th Earth resources
pass. This pass is along a track beginning outside Rapid
City, South Dakota and ending the Virgin Islands and Puerto
Rico. All EREP sensors with the exception of the Earth
terrain camera S190B B will be utilized in this pass. A
block of time has been worked into tomorrow's flight plan
to provide the crew additional time to adjust align the
S192 multispectral scanner. The crew has had difficulty
in aligning this instrument during today's EREP pass. The
multispectral scanner is an optical mechanical scanner which

SL-II MC-495/2

Time: 21:34 CDT 11:02:34

6/3/73

registers spectral signatures in 13 spectral bands in the visible and infrared of ground targets in agriculture, forestry, geology, hydrology, and oceanography. Dr. Story Musgrave, member of the backup crew of Skylab II, advised Commander Conrad tonight that procedures of an EVA for an attempt to free the orbital workshop solar wing panel number 1, will be passed up by teleprinter tomorrow. The following day on Tuesday, the crew will discuss these procedures with Mission Control. These discussions are scheduled to be covered by TV from the spacecraft. EVA procedures were worked out today by Commander Schweickart, by backup Commander Schweickart and Ed Gibson in a , at the neutral buoyancy simulator at the Marshall Space Flight Center. They were trying all three methods of loosening the aluminum strap which is holding down the solar array beam on the orbital workshop. For Houston area residents who would like to see the Skylab workshop early in the morning. There is another pass running southwest to northeast starting at 5:27, 5:27 central daylight time. This pass from the southwest to the northeast will be visible for approximately 6 minutes and 41 seconds at an elevation of 55 degrees. With loss of signal at the Ascension Island tracking station. Next pass is scheduled for Guam in 28 minutes. At this time the crew should be asleep. At Mission Control Center Greenwich mean time 2 hours 45 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-496/1

Time: 22:12 CDT, 11:03:12 GMT
6/5/73

PAO This is Skylab Control, Greenwich mean time three hours 12 minutes as the Skylab space station with the three astronauts aboard approaches the Guam tracking station. If all is well, the crew should already be bedded down for the evening. We've leave the line up in the event there is air-to-ground with Cap Com, Dr. Carl Henize.

PAO This is Skylab Control, Greenwich mean time three hours 23 minutes. There was no conversation between the Skylab space station and Mission Control Center and on the just completed pass over the Guam tracking station. Dr. Charles Ross, Skylab Flight Surgeon reported, following a brief conversation with the crew on the Ascension pass, that the crew said that Saturday night they had their best night's sleep since their launch on May 25. Commander Conrad reported that the crew averaged between 6-1/2 to 7 hours of solid sleep. Dr. Ross quoted the crew as reporting they are in good spirits and are in excellent condition. This is Skylab Control closing down the Public Affairs console for Sunday evening. Next report at 6:00 a.m. central daylight time, Monday. This is Skylab Control three hours 24 minutes.

END OF TAPE

SL-II MC-1366/1

Time: 05:44 CDT, 29:10:44 GMT
6/22/73

PAO This is Skylab Control at 10 hours 44 minutes Greenwich mean time. We've had loss of signal at the Merritt Island Station. Skylab will not be acquired again until it reaches Goldstone acquisition, an hour and 18 minutes from now. There was a very little conversation during this last stateside pass. The crew inquired about the status of the refrigeration loop on the orbital workshop. We're informed that we still do not understand the situation there yet. We accumulated 2 minutes and 20 seconds worth of tape during that pass. We'll play that now.

CC Skylab, Houston. AOS stateside for 12 minutes.

SC Roger, Houston.

CC Skylab, Houston. Go ahead.

SC Roger. How does our refrigeration system look?

CC Roger. Let me get you an update on that and I'll get back to you in just a second.

SC Okay. We're doffing suits. We're going to have a little lunch.

CC Okay. Good.

CC Skylab, Houston. For your information, we still do not understand the refrigeration system problem in the SWS. The temperatures in the coolant loop, itself, are still slowly on the increase. So, I really can't spell out much more of a detailed briefing for you now. We did discover the first indication of a problem, occurred about 20 minutes or so before any action that you guys took during the deactivation. So, although, in the end when we took the frozen urine out of the freezer, there may have been some effect of that thermal spike on the system of the - The problem was strictly coincidental and it occurred prior to you guys getting to that point in the checklist. Over.

SC Okay, Richard. Thanks a lot.

CC Roger. And we've still got several minutes left in this pass, and I'm standing by.

SC Okay.

CC Skylab, Houston. We're about a minute from LOS in Mila. We're going to see you - I'll give you a call on VHF. We've got a real low elevation pass at Carnarvon at 18:17. And going over the hill, the bird looks real good.

SC Okay. We'll see you then.

CC See you then.

PAO This is Skylab Control. That's the end of the tape. We're an hour and 16 minutes away from the next tracking station. To recap a bit, the command and

SL-II MC-1366/2

Time: 05:44 CDT, 29:10:44 GMT
6/22/73

service module undocked from the Saturn workshop about 13 minutes late. Undocking was at 8 hours 55 minutes Greenwich mean time over Goldstone. We had live television at undocking and for the early portion of the flyaround of the Saturn workshop. The separation maneuver, the 5-foot-per-second reaction control system burn was performed on time, and was a good burn. And on Guam - over Guam, on the last revolution, we performed the first step in the deorbit procedure, a service propulsion system burn, shaping burn, which ellipticized the orbit, looking for a perigee of 90 miles - 90 nautical miles with that burn. That again, was an ontime burn and looked good. The next and the last maneuver in this deorbit sequence, is retrofire. That will take place approximately 2 hours and 21 minutes from now. It will not take place within site of the tracking station. Everything going well aboard the command and service module. And as we passed up to the crew, we still do not understand the refrigerant loop problem. That's still being worked here on the ground and looked at very carefully. At 10 hours 50 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1367/1

Time: 06:25 CDT, 29:11:25 GMT
6/22/73

PAO This is Skylab Control at 11 hours 26 minutes Greenwich mean time. We are going to try to contact the crew for a VHF, or very high frequency radio check at Carnarvon. The spacecraft will be out of range for S-band. But a VHF radio check will be tried very briefly at Carnarvon. We're within a few minutes of that check, about a minute and a half. We'll stand by for that.

CC Skylab, Houston. We're AOS at Carnarvon through VHF for 2 minutes.

CC Skylab, Houston. We're AOS Carnarvon, VHF, for a couple of minutes.

SPT Roger, Houston. How do you read?

CC Roger. Read you loud and clear. And I have a little bit of good news for you. The FIDO made his run so well prior to your undocking that there are no updates required for the retrofire pad or the entry pad. How about that?

SPT Okay. Thank you.

CC Roger.

CC Skylab, Houston. We're about a minute from LOS at Carnarvon. We're going to see you at Goldstone at 18:53. And we're wondering if you accomplished P52?

PLT Not since the burn, Dick.

CC Roger.

CC We'll see you at Goldstone at 18:53.

PLT Okay.

PAO This is Skylab Control at 11 hours 30 minutes Greenwich mean time. That VHF radio check through Carnarvon was successful. And we passed up to the crew the information that no updates will be required for the retrofire or the entry pads. Retrofire scheduled for 1 hour 39-1/2 minutes from this time, at a Greenwich mean time of 13 hours 10 minutes 46.8 seconds. The command service module is still 32 minutes from acquisition at Goldstone. The fact that no updates are required for the entry pad make all of those numbers previously released still good. We'll review them here now. The separation of the command service module is scheduled for 13 hours 15 minutes 50 seconds Greenwich mean time. Command module enters the atmosphere at 400,000 feet, at 13 hours 33 minutes 47 seconds, or 23 minutes 4 seconds after retrofire. Blackout begins at 13 hours 36 minutes 32 seconds, that's 25 minutes 49 seconds after retrofire. Blackout ends at 13 hours 40 minutes 12 seconds, 29 minutes 29 seconds after retrofire. The maximum G load is reached at 13 hours 41 minutes 23 seconds, or 30 minutes 40 seconds after retrofire. And that G load on the crew will be 3.6. Dregue shoot deployment at 13 hours 44 minutes 19 seconds.

SL-II MC-1367/2
Time: 06:25 CDT 29:11:25 GMT
6/22/73

That's 33 minutes 36 seconds after retrofire. The main parachute deployment at 13 hours 45 minutes 5 seconds, or 34 minutes 32 seconds after retrofire. And landing at 13 hours 49 minutes 57 seconds or 39 minutes 14 seconds after retrofire. The coordinates of the landing point are a latitude of 24 degrees 46 minutes north longitude 127 degrees 4 minutes west. We'll come back up just prior to acquisition at Goldstone. At 11 hours 34 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1368/1

Time: 07:00 CDT, 29:12:00 CMT
6/22/73

PAO This is Skylab Control at 12 hours Greenwich mean time. Goldstone will have acquisition within the next couple of minutes. This will be the crew's last look at the United States from orbit. The space flight meteorology group of the National Weather Service, National Oceanographic and Atmospheric Administration, said weather conditions this morning will be satisfactory for landing and recovery of the crew. The landing area in the eastern Pacific about 800 miles southwest of San Diego will have typically cloudy skies consisting of a thin layer of stratus at about 2000 feet, north-northeast winds of 10 to 12 knots, wind waves of 1 to 2 feet, long swells of 5 to 6 feet, and temperature near 67 degrees. We'll stand by for acquisition through Goldstone.

CC Skylab Houston. AOS stateside for 9 minutes.

CDR Hello there. You want P20 in ACCEPT?

CC Yes sir, we sure do, and we'll give you some state vectors and P30 targets. And we're standing by for your P52 results. And when we confirm we have data, we want you to activate the command module RCS.

CDR Okay sir. The stars were 35 and 43. The SPT did an outstanding job with 5 balls plus 00128, plus 00044, minus 00101, the time 18:32:00:00.

CC Roger, got it.

CDR Okay. What would you like us to do, pressurize the RCS?

CC Roger. Stand by just a second please.

CC CDR, Houston. Affirmative. We're looking at the data and we're ready for you to proceed.

CDR We go to turn on the logic.

CC That's affirmative, Pete. You're clear.

CDR Okay.

CC Skylab, Houston. You're GO for power alarm.

CDR Okay, they're ARMED.

CC Roger.

CDR Okay, looks like we got both of them.

CC Roger. We concur, Pete. They look good on the ground too.

CC And Skylab, Houston. When we get through with this RCS activation to your satisfaction, we've seen kind of a funny in the optics I'd like to talk about for a second and get you to run through a little procedure for us. And we'll find out if it is onboard or on the ground.

CDR Okay. We see a little funny in the optic, too. It doesn't point right the first time. Go ahead with your procedure.

SL-II MC-1368/2

Time: 17:00 CDT, 29:12:00 GMT

6/22/73

CC Okay, what we'd like you to do is leave the mode switch where it is and call up NOUN 91. And we'll look at it on the ground, and you can compare it to your (garble). And we've seen funny readings in our telemetered trunion reading. And this ought to confirm - help us confirm where the problem is, if any.

CDR Yeah, well I think we have a problem, Dick. Joe has had to - we had to redo this last P52 here. I'll let him tell you.

CC Roger.

SPT On two P52's Dick, the first time I let the auto optics take me to a star, the NOUN 92s were okay, but the trunion didn't go there. It went to (garble) instead. And in most cases the problem was solved by (garble)

CC Roger. Copied everything except in most cases the problem was solved by what?

SPT By zeroing the (garble).

CC Skylab, Houston. We dropped out for a second, just for a second, stand by please.

CC And Skylab, we'll be unable to do this procedure that I mentioned until we get through with uplinks.

SPT Roger.

END OF TAPE

SL-II MC1369/1

Time: 07:09 CDT, 29:12:09 GMT
6/22/73

PAO This is Skylab Control. The Texas station has an antenna problem, they're working to try to correct it now.

CC Skylab, Houston. We've got all the uplinks in and you can go back to block. And if you have the time, if you'll call up NOUN 91 and compare it to (garble), we'd appreciate it.

CDR Okay, Dick. You probably see NOUN 91, and it does in this case agree with the (garble).

CC Roger. And when we saw the problem before, Joe the optics was in the zero mode. We're about 20 seconds from LOS. We're going to see you at Vanguard at 19:16.

CDR (garble)

CC Roger.

PAO This is Skylab Control at 12 hours 13 minutes Greenwich mean time. Texas does have loss of signal. The Vanguard will acquire in about 14 minutes. Vanguard is the last of the regular tracking stations that will be in contact with the crew on this mission. There will be an Aria on station that we hope to pick up communications through right after blackout ends. Ignition on the retrofire maneuver is 56 minutes 36 seconds from this time. That maneuver will be performed out of sight of any tracking station. We'll come back up just prior to acquisition at Vanguard. At 12 hours 14 minutes, this is Skylab Control.

END OF TAPE

SL-II MC1370/1
Time: 07:25 CDT, 29:12:25 GMT
6/22/73

PAO This is Skylab Control at 12 hours
25 minutes Greenwich mean time. Command and service module
coming up within range of the Vanguard tracking ship now
beginning its last revolution. We'll reenter during this
revolution. We'll stand by for conversation at Vanguard.
CC Skylab, Houston. We're AOS Vanguard for
6 minutes.
CDR Roger, 6 minutes. Houston, any particular
time or I was going to - -
SC - - burn attitude. About 19:30 start the
maneuver, if that's all right.
CC Stand by 1.
CC Roger, CDR. That time will be real good.
CDR Okay.
CC And if you guys would like to hear about
the weather at the recovery area, I'll give it to you here.
CDR Okay.
CC It's real pretty out there. It's a 2,000 foot
broken, 10 miles visibility. There's about a 12 knot breeze
blowing. The wave heights are four feet. Air temperature
is 67 degrees. There'll be two helos in the area (garbie) recovery
and swim. And you're being awaited by the U.S.S. Ticonderoga.
And we're waiting to see you back here in Houston, too.
CDR Alrighty. You can relay to the Tico, we've
got their fox corpen and our hook is down.
CC Roger that.
CC Skylab, Houston. Everybody around here
has looked at the bird, and it looks real good. You're GO
for SPS-2 deorbit and entry. There's an Aria out there that
will be talking to you after the blackout, so we'll see you
there. Have fun.
CDR Roger, roger.
CC We still got about 2 more minutes left
here at Vanguard and I'm standing by.
CDR We're worried about this 90 miles perigee
we're at right now or close. it. It looks like we're going to
run into the ground it looks so low.
CC Roger.
CDR We had a lovely tour down the Andes Mountains
there.
SC You know on launch day Pete wouldn't let
us look out the window, so this is our first look down this
low.
CC Roger. I know you guys have been in sunlight
for a long time and you're going to miss darkness by just
about 10 minutes, because Fido tells me you're never going to

SL-II MC1370/2

Time: 07:25 CDT, 29:12:25 GMT

6/22/73

get into it but you're going to - the place - your landing spot in the Pacific is going to be just after dawn when you splashdown.

SC

(garble)

PAO

This is Skylab Control, 12 hours 34 minutes Greenwich mean time. Vanguard has loss of signal. 36-1/2 minutes away from retrofire. That burn taking place at 13 hours 10 minutes 46 seconds Greenwich mean time, or 8:10:43 Central daylight time. About 5 minutes later at 13:15:50 the crew will separate the service module from the command module. The command module will enter the atmosphere 23 minutes after retrofire, land in the Pacific about 39 minutes after retrofire. There are no more tracking stations between here and the landing point. On this revolution the command module will miss the stations in Australia, Guam, Hawaii. There will be an ARIA, an Apollo Range Instrumented Aircraft, on station in the area of where the command module will come out of the blackout period during reentry. We'll try to get communications through the ARIA at that time. At 12 hours 36 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1371/1

Time: 08:25 CDT, 29:13:25 GMT

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PAO This is Skylab Control at 13 hours 25 minutes Greenwich mean time. Retrofire should have occurred 14 minutes ago. And the command module should reach 400,000 feet altitude in about 9 minutes. The spacecraft should be within range of the ARIA aircraft, tracking aircraft in about 13-1/2 minutes. We conducted a communications check with that aircraft a short time ago. And voice communications were good at that time. We also heard from the recovery ship, the aircraft carrier USS Ticonderoga. Ticonderoga reports her helicopters are on station. And she is downwind of the target point. The landing area for this reentry is an ellipse, 4 by 7 miles. And Ticonderoga can be anywhere downwind of the splash point on a crossing track at the time of splash. This crew will be recovered in the spacecraft. Will not be hoisted aboard helicopters as in the past. This being done because - for several reasons. The doctors want the crew to be as inactive as possible between the time they land and the time they start their medical exams. This is part of the medical experiments of this flight. Also, a desire not to open the hatch of the command module while its on the water, so as to provide more protection to the experiment data that is aboard. The last crew to come aboard the recovery ship in a spacecraft was Tom Stafford and Gene Cernan on Gemini 9, in 1966. That was Stafford's second trip aboard the spacecraft to the deck of the carrier. He and Wally Schirra also came aboard in that fashion on Gemini 6, in 1965. The helicopters on station are identified as Recovery. This is the helicopter that will drop the swimmers, will attach the flotation collar around the spacecraft. The backup helicopter to Recovery is identified as Swim. Two other helicopters in the area will be ELS or Earth Landing Systems. This helicopter will drop swimmers in an attempt to recover the parachutes. We'd like to recover all three parachutes. And a photo-helicopter will be in the area also. The last simulation by Ticonderoga, a couple of days ago, had the spacecraft aboard the ship in about 33 to 34 minutes after splash. The ship will be hoisted to the hanger deck with a crane and about a 10-minute medical conference will ensue between Joe Kerwin, the science pilot aboard, who is a physician, and Dr. Charles Ross of the Johnson Space Center, who heads up the medical team on Ticonderoga. Dr. Kerwin will check his blood pressure while he's still in a supine position lying in the couch. He'll then set up in a vertical position and check it again. We have seen in past missions a cooling of the blood in the lower extremities. And we're not quite sure what we're going to see after 28 days with this crew. As a precaution, the crew is wearing a pressure garment on

SL-II MC-1371/2

Time: 08:25 CDT, 28:13:25 GMT

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the lower part of their body, similar to a G-suit worn by jet pilots, that can be inflated if they begin to have symptoms of blacking out. Dr. Kerwin will check himself and the other crew members and confer with Dr. Ross prior to hatch opening on the hanger deck of the Ticonderoga. And this medical conference expected to take about 10 minutes.

END OF TAPE

SL-11 MC-1372/1

Time: 08:30 CDT 29:13:30 GMT

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PAO We have the crew members on the prime helicopters in the area. We'll give those to you. The crew of Recovery: Pilot Commander Arnold Filser, Peru, Illinois; Co-Pilot Lieutenant Jr. Grade Doug Yasensky of Idaho Falls, Idaho; and the three crewmen are Aviation Machinist Mate, First Class, John Edell of Depew, New York; Aviation Electrician Mate, Second Class, Luther Pinston of Melrose, New Mexico; Aviation Structural Mechanic, Third Class, Arthur Goltz of St. Louis, Missouri. The swimmers aboard that helicopter who will attach the flotation collar are: Lieutenant Jr. Grade, Timothy R. E. Keeney of Somersville, Connecticut; Chief Radio Man John J. Garcia of Spokane, Washington; Radioman Second Class Donald A. Thompson of Oak Harbor, Washington; and Seaman Alain R. Bianco, Mr. Laurel, New Jersey. The crew of the ELS helicopter: Pilot, Lieutenant Commander Mike Dohson of Raytown, Missouri, Co-Pilot Jr. Grade Larry Denton of San Antonio Texas. The crewmen are Aviation Structural Mechanic First Class, Daniel Miotke, Troy, Michigan, and Aviation Machinist Mate, Third Class, Davis Blommer, Greenfield, Missouri. The swimmers aboard that helo who will attempt to recover the chutes are: Lieutenant Jr. Grade John L. Graham of the San Mateo, California; Engine man, Third Class, Riki J. Aike, Gardena California; Quartermaster, Third Class, Joseph J. Martinez, Makees Rocks, Pennsylvania; Hull Technician, Third Class, Howard B. Denny, West Cornwall, Connecticut; Quartermaster Third Class, Michael M. Davis, Salt Lake City, Utah; and Hull Technician, Third Class, Terry L. Thompson of Los Gatos, California. The crew aboard the photo helicopter: Pilot Lieutenant Mo Kindel of Arcadia, California; Co-Pilot Lieutenant John Bowin, Coronado, California; Aviation Structural Mechanic, Second Class, Dennis Conrad of Cleveland, Ohio; and Aviation Electrician's Mate, Seaman Larry Blair of Livingston, Alabama. We're getting - - We're about 5 minutes away from ARIA acquisition. We'll continue to stay up live from this point on, and hope we can get some good communications through ARIA. The command module should have passed through 400,000 feet about 26 seconds ago. Blackout schedule to begin at 13 hours 36 minutes Greenwich mean time. About a minute and a half - -

END OF TAPE

SL-II MC1373/1

Time: 08:35 CDT, 29:13:35 GMT
6/22/73

PAO This is Skylab Control, 13 hours 36 minutes Greenwich mean time. The command module should be in blackout now. Due to end blackout 13:40:12, 8:40:12 Central daylight time, and we're due to acquire ARIA 1 second after that blackout ends. We'll continue to stand by.

PAO There is a report that the Ticonderoga has a radar contact.

PAO Range 188 miles on Ticonderoga's radar. 137 miles on Ticonderoga's radar now. Spacecraft should be out of blackout. We'll stand by. Tico reports range 95 miles. 7 - 8 miles.

END OF TAPE

SL-II MC1374/1
Time: 08:42 CDT, 29:13:42 GMT
6/22/73

CC Skylab, Houston through the ARIA. How
do you read?
CC Skylab, Houston, through ARIA 1.
How do you read?
FAO Ticonderoga standing by.
CC - - Houston through ARIA 1. How do you read?
PAO Ticonderoga standing by for sonic boom now.
CC Skylab, Houston, through ARIA 1. How do
you read?
SC Roger. We read you loud and clear, Houston.
Everything's okay, we're out of 40,000.
CC Very good, Pete. You're in the groove.
SC And it's reading 2477 minus 2707.
CC Roger.
PAO Guidance reports the computer's reading
right on for landing.
PAO Should be getting main chutes within the next
few seconds.
PAO Should be on main chutes now.
SC Hello, Recovery. Hello, Recovery, Skylab.
On the "mains", and everything's okay.
PAO The recovery Helo spots mains also.
SC On your 0552, (garble).
CC Skylab, Skylab, this is Recovery. How
you been doing up there? Over.
SC Skylab reads you loud and clear. We'll
see you (garble) Everthing's fine.
RECOVERY Skylab, Skylab, this is Recovery. How
you doing up there? Over.
SC Recovery, Recovery, Skylab. How do you read?
RECOVERY This is Recovery, loud and clear. How you
doing?
SC Roger, we're in good shape (garble).
RECOVERY Roger. You're looking good from here. We're
about 3 miles to the Northland here at this time.
SC Okay, we're out of 4500 feet and everything's
good.
RECOVERY (garble) the Ticonderoga (garble).
CC Roger. Skylab, Houston. Do your readout. Over.
SC Skylab, say again.
CC Roger. Do you have a computer readout?
Over.
SC Yes, sir, 040.78, 127.06.
CC Ticonderoga. (garble). Out.
CC (garble)
CC What'd your (garble) think?

END OF TAPE

SL-II MC-1375/1
Time: 08:48 CDT, 29:13:48 GMT
6/22/73

RECOVERY And this is Recovery. We have a visual
below the overcast, about 100 at 050 6000, Ticonderoga.
SC Thank you.
SPEAKER This is (garble) stand by for (garble).
SPEAKER Talk to you later, stand by.
SPEAKER At my MARK (garble) 6-1/2 miles.
SPEAKER (Garble).
RECOVERY Recovery, splashdown and it looks like
stable 1,
SPEAKER (Garble) Roger. Out.
SPEAKER (Garble) swimmer is deployed.
SPEAKER Stand by for (garble) in the water.
Rolling approximately 5 to 10 degrees.
PAO Splash time 13:49:48 Greenwich mean time.
SPEAKER ELS helo is moving in.
SPEAKER First ELS swim team is deployed.
CM-CDR Hello, Recovery. Skylab, do you read?
RECOVERY Hi, this is Recovery. Read you loud
and clear. How's it going?
CM-CDR Okay. Everybody's in super shape.
RECOVERY Well, that's great. Welcome back.
CM-CDR Thank you.
RECOVERY Second ELS swim team is deployed. Ticonderoga,
do you read Skylab? Over.
TICONDEROGA Recovery, Ticonderoga. Request that you
repeat. Over.
RECOVERY Roger. Skylab reports everyone's in
super shape - super shape. Over.
TICONDEROGA (Garble) Ticonderoga. Roger. Out.
RECOVERY Third ELS swim team's deployed.
PAO Seven swimmers in the water now, one at
the command module and six attempting to recover the chutes.
The swimmer at the command module is attaching a sea anchor.
RECOVERY Swimmer signaling for the flotation collar.
PAO Recovery preparing to drop three more
swimmers and the flotation collar.
RECOVERY Swimmers are deployed with the flotation
collar.
RECOVERY Flotation collar is at the command module.
RECOVERY LS seven-man life-raft is deployed.
RECOVERY (Garble)
RECOVERY (garble)
RECOVERY (garble) Seven-man life raft is deployed
(garble) ELS.
RECOVERY (Garble) starting to attach collar. Over.
PAO Flotation collar being installed now.
And seven-man life rafts have been dropped near the chutes.
Swimmers will attach the chutes to the life rafts.

SL-II MC-1375/2

Time: 08:48 CDT, 29:13:58 GMT

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RECOVERY (Garble) is at three-quarters position.
RECOVERY Third ELS team has the 7-man liferaft.
RECOVERY (garble)
RECOVERY Flotation collar is in position.
RECOVERY First ELS swim team has the 7-man liferaft
inflated.
RECOVERY Second EL - has its 7 -man liferaft
inflated.
RECOVERY ELS swim team has the 7-man liferaft
inflated. Inflation of the flotation collar has begun.
PAO Ticonderoga reports that the command
module landed 6-1/2 miles from the ship. And that the ship
was at 6-1/2 miles from the target point.
RECOVERY Have completed - completed inflation of
the flotation collar. Three swimmers up on the flotation
collar, installing the bolt straps.
RECOVERY (Garble) bolt straps being installed.
RECOVERY (Garble) for the recovery raft.
RECOVERY Every raft is deployed.
CM-CDR Hello, Recovery, Skylab.
RECOVERY Hi, this is Recovery. Go ahead.
CM-CDR You're not going to pick us up with
the ship?
RECOVERY We sure are. The ship's presently
about 3-1/2 miles from you. They'll be here shortly.
CM-CDR Okay. Very good.
TICONDEROGA Recovery, Ticonderoga copied. Over,
out.
RECOVERY Skylab, this is Recovery. We're putting
on the recovery raft just so the swim people can have some place
to work on. Over.
CM-SPT Okay. Thank you.

END OF TAPE

SL-11 MC-1376/1

Time: 08:58 CDT 29:13:58 GMT
6/22/73

HELO - -place to look on (garble)?
HELO Okay, thank you.
HELO Recovery rafts inflated?
HELO Roger.
HELO Recovery rafts are fully inflated, being positioned. (garble) now has it. Parachute approximately halfway into the raft. Turn to your left. The swim team has it. The parachutes approximately halfway into the raft.

PAO Ticonderoga now 3 miles from the command module.

CM-CDR Recovery, Skylab.
RECOVERY Go, Skylab.
CM-CDR Hey, you guys want us to inflate the (garble)?
TICO Skylab, this is Ticonderoga. That is affirmative, I repeat, that is affirmative. Over.
CM-CDR Would you tell the swimmers they'll be starting; their 10 minutes is up.
TICO Roger Skylab.
HELO The recovery raft is now connected to the flotation collar.

ELS ELS (garble) the full cargos of ELS swimmers aboard.

HELO ELS - Roger. All three ELS teams are presently throwing in their parachutes up to the rafts. The (garble) tossed the (garble) line of the (garble) the third one. That's all three should tell me where the line above went approximately 60 to 85 yards. ELS (garble) out.

HELO It appears that all three ELS swim teams are still pulling in their parachutes.

HELO ARIA 1, ARIA (garble). Separation bags are in waiting.

HELO Why don't you get out a quick-look report while you're orbiting. We can get all the US (garble) out, and then when you release (garble) get the rest.

HELO Request that you send ELS swimmers to get into position and request you report when ELS swimmers have parachutes in the raft. Over.

ELS ELS wilco.

PAO As a precautionary measure, Pete Conrad has inflated the uprighting bags on the command module. It appears that all three chutes will be recovered.

HELO (garble)

PAO Ticonderoga now 1.3 miles from the command module.

PAO Ticonderoga reports being 2400 yards from the command module, 2400 yards.

HELO (garble) all four ELS rafts are together at this time at approximately 10 yards - -

END OF TAPE

SL-II MC1377/1

Time: 09:09 CDT, 29:14:09 GMT
6/22/73

RECOVERY (garble) All four ELS rafts are together at this time. They're approximately 10 yards to the Starboard of the windline. (garble)

TICO (garble) Ticonderoga. Keger. Out.

PAO Ticonderoga about 1100 yards away now.

Moving into position for pickup. Meanwhile the Skylab workshop has just started its 562nd revolution. Full team of flight controllers here still monitoring the workshop.

Another full team involved with the recovery of the crew - -

SPEAKER (garble) down at this time to approximately 1,000 yards.

SPEAKER U.S.S. Ticonderoga (garble) request that ELS swim team start off to the target. Over.

SPEAKER (garble)

PAO Ticonderoga slowing down now, almost

to a stop. Landing occurred 22 minutes ago.

SPEAKER Photo (garble) ELS raft (garble) Over the starboard of the windline at this time, approximately 15 yards. All ELS swimmers are together.

PAO Range now 840 yards.

SPEAKER ELS. (garble)

SPEAKER (garble) The U.S.S. Ticonderoga is (garble) (garble).

PAO Ticonderoga now about 500 yards away. There's report the APEX cover of the command module has also been recovered.

SPEAKER (garble) Ticonderoga is possibly 400 yards from the command module.

PAO Ticonderoga moving slowly into position now. Wood chips have been thrown into the water from the bridge to assist the Skipper in determining the drift rate as he guides the ship up to the command module.

PAO This is a very delicate operation, requiring a high degree of seamanship. The Ticonderoga is 912 feet long, coming up along side the command module.

PAO Linehandlers on the ship are standing by. Spacecraft even with the bow now. Standing back with a shotline, which will be fired to the swimmers - -

PAO Swimmers going after the shotline at this time. Landed just a little short of the command module. Swimmer has it and is heading back toward the command module. This is a light line fired from a gun. Be used to pull in the heavier line that will be attached to the command module.

PAO The inhaul line now being attached to the command module.

SL-II HC1377/2

Time: 09:09 CDT, 29:14:09 GMT
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PAO Line handlers on the ship will now pull the command module to a position underneath the crane.

PAO This inhaul line spins through a pulley. About 25 sailers are hauling in the command module.

PAO About 100 feet to go now to be in position under the crane, moving slowly along the starboard side of the ship.

SPEAKER Skylab, Ticonderoga. Ready to (garble)

SPEAKER Skylab, this is the Ticonderoga go ahead.

SPEAKER Roger, Skylab. I'll keep you informed as it (garble) hoisting aboard. Over.

CM-CDR Roger, roger. He's ready to go. We all got our seat belts fastened - (garble) - pleasure to ride up.

SPEAKER Roger, Skylab. You're just about below that - below the crane at this time.

SPEAKER Roger, we can see it. Thank you.

END OF TAPE

SL-II MC-1378/1
Time: 09:23 CDT, 29:14:23 GMT
6/22/73

TICONDEROGA Skylab, this is Ticonderoga, (garble)
The recovery (garble) is in tact. They'll be hoisting you
aboard in about a minute.

CDR Roger, roger, Ticonderoga. Thank you.
TICONDEROGA Skylab, this is Ticonderoga. You're
being hoisted out of the water at this time.

PAO Command module clear of the water now.
Being hoisted aboard Ticonderoga's number 3 elevator.

TICONDEROGA (garble) Ticonderoga, what do you say?
PAO The flotation collar will be removed

before the command module is placed onto a dolly.
PAO Recovery dolly being moved under the

command module now.
PAO The clock here showed the command
module on the dolly 38-1/2 minutes after splash.

PAO The command module reaction control
system thrusters have been checked for leaks and none found.
As a precaution, however, plugs will be placed in those
thrusters.

PAO The steps are now in place at the command
module hatch, and the red carpet is being rolled out.

PAO The command module reaction control
system being plugged now. After this is done, the - Dr. Ross
and Dr. Kerwin will have their conference before the hatch
is opened.

PAO Joe Kerwin should now be checking his
blood pressure and the blood pressure of the other crewmen,
preparatory to his conference with Dr. Ross. And here in
the Control Center, a ladder has been placed in position,
preparing to hang the first (garble) plaque in the Skylab
Program in the Mission Operations Control Room.

PAO NASA Recovery Team Leader, Mel Richmond,
now opening the hatch. They're going to climb out.

NEWSMAN - - perfect condition (Music). And
what we thought was going to be a 15 or 20 minute interlude,
isn't going to be at all. Mel Richmond opens the command
module hatch, and out comes Pete Conrad, Commander of the
Skylab crew, back from a successful 28 days in space. And
the band of Ticonderoga strikes up "Anchors Away", saluting
these three American Astronauts, all Naval Officers. They
begin their walk. Dr. Kerwin appearing a bit unsteady there.
Twenty-eight days of weightlessness, back into Earth's
gravity under an hour. A bit shaky, but walking under his
own power to the Skylab mobile laboratories set up in the - -

END OF TAPE

SL-II MC-1379/1

Time: 09:25 CDT, 29:14:25 GMT

6/22/73

SPEAKER - - the band of the Ticonderoga strikes up "Anchors Away," saluting these three American astronauts, all Naval Officers. They begin their walk. Dr. Kerwin was appearing a bit unsteady there after 28 days of weightlessness and back into Earth's gravity under an hour. A bit shakey but walking under his own power to the Skylab Mobil Laboratory set up in the hanger bay of the Ticonderoga, where they will immediately begin what will be 6 hours of medical tests and evaluations for this first day back on Earth, and the beginning of several days of extensive medical evaluations.

PAO This is Skylab Control. Here in the Mission Control Center cigars are being lit, a lot of hands being shaken, backs being patted. On the big forward screen a replica of the Skylab crew patch and these words, "Skylab I/II mission accomplished." A tribute to the combined abilities of NASA and all support contractors, who surmounted problems to begin a new era of scientific achievement. The manned - first manned portion of this mission is over. However, this mission continues. We still have the unmanned Skylab workshop in orbit. And flight controller teams will work around the clock here in the Control Center until the next - between now and the next manned launch, now targeted for July 27. A news conference is scheduled in the main auditorium of the Johnson Space Center in approximately one half hour. NASA management news conference. Participants will be Dr. James Fletcher, the NASA Administrator, Dr. George Low, NASA Deputy Administrator, Dale Meyers, the Associate Administrator for Manned Space Flight, Dr. Christopher Kraft Jr. Director of the Johnson Space Center, Dr. Rocco Petrone Director of the Marshall Space Flight Center, Dr. Kurt Debus, Director of the Kennedy Space Center. And immediately following that news conference there will be a second conference with William Schneider, the Skylab Program Director, Kenneth Kleinknecht, the Skylab Program Manager from the Johnson Space Center, Leland Belew, the Skylab Program Manager from the Marshall Space Flight Center, Dr. Royce Hawkins Deputy Director for Medical Operations at the Johnson Space Center, Major General Kenneth R. Chapman, the DOD Manager for Manned Space Flight Support Operations, Donald K. Slayton, Director of Flight Crew Operations at the Johnson Space Center, the command module Flight Director, Phil Shaffer, Dr. Robert Parker, a Scientist Astronaut and Skylab Program Scientist. That second news conference beginning immediately after the management press conference. And the management press conference is estimated to begin in approximately 30 minutes in the main auditorium at the Johnson Space Center.

END OF TAPE

4/1
CDT

This is Skylab Control; 11:15.

And Happy Birthday, Pete.

Oh, you remembered.

Aren't we sweet.

Bouncing 43 yearold this morning.

Yeah, we're getting so much feedback

SIA, I can't really read you right now. We'll have Goldstone at 11:54. I got about 30 seconds more

Skylab, Houston. We're indicating that and warning number one system and emergency system is powered off right now. Did you guys power it

That's affirm. That's the housekeeping whatever it is.

You guys are really up early and going

Well we, uh, passed over western Europe (garble).

Houston, Skylab.

Okay. We finally eliminated the feedback. way between the wardrobe and the dome speaker you believe.

Roger. It sounds much better.

This is Skylab Control; 11:19 Greenwich loss of signal, very brief. Pass along the southern Carnarvon acquisition range. Although the space is along the southern segment of Honeysuckle, Honeysuckle, Australia, is not up for this particular 271, Skylab Space Station. Next acquisition is at Goldstone. Near Barstow, California. Currently data on the electrical power system from the shows that the average state of charge on the 99.2 percent of total capacity. Battery charger modules CBRMs 3 and 15 still off line, as yesterday. We at the Carnarvon pass, and called by Cap Com with a brief Happy Birthday greeting to Pete Conrad. Now to acquisition for a stateside pass starting at And at 11:21 Greenwich mean time, Skylab Control.

SL-II MC-415/1
Time: 06:53 CDT
6/2/73

PAO This is Skylab Control at 11:53 Greenwich mean time. Less than a minute away from acquisition at Goldstone Tracking Station. Stateside pass sweeping from Baja California, up through Newfoundland and Nova Scotia, into the North Atlantic. Revolution 271. The crew initial contact was made over Carnarvon this morning, slightly after 6 a.m. central time. Standing by on air-ground. Skylab Control.

CC Skylab, Houston. We're AOS over the States for the next 17 minutes, for the next 17 minutes.

SC Roger, Houston. And, Houston; CDR.

CC Go, CDR.

SC Okay, last night I said that I wasn't sure I asked them to drop M151 off of S183, because we hadn't configured it. We got up a little early this morning, and I've been working that problem. I won't guarantee that I'll get it done, but I got it in work. I got it half done.

CC Roger. I imagine you'll make some 151 people very happy if you did.

SC Houston, CDR.

CC Go, CDR.

SC I thank you for passing on the birthday greetings. I didn't respond. I was working a problem in waste management compartment at the time.

CC Roger. Still trying to work up somebody that can sing "Happy Birthday" to you.

SC No need. I've gotten to the point where I should be 39 and holding and forgetting it.

CC Roger. By the way, we had an opportunity to review the TV tape of you guys running around the dome lockers last night. That's quite a show you put on.

SC We catch on pretty fast up here.

SC Hey, Crip.

CC Go, Paul.

SC What's the status on our OWS plus 1 roll indication? Are they still working it?

CC Yeah, they're still looking at it. They haven't come up with any bright ideas here yet. Let me see if I can come up with something local with you.

SC Okay. I got another request for them.

CC Go.

SC That thing that was sent up yesterday on the new housekeeping 70 series - Send it again, will you please? I want to cut it out and paste it up on the STS panel.

CC Roger. You'd like the entire 70 Alpha and Bravo again?

SC Yeah, I don't need the correlation matrix on the front of that. Just the thing that - yes, but still the way you do.

CC Roger.

SC And I don't have a message number, Crip. When I put it in the book, I trimmed it as neatly as I could so that - -

SL-II MC-415/2
Time: 06:53 CDT
6/2/73

CC Yeah, we have it here. No sweat.
CC PLT, Houston. Regarding the power problem
you had last night, we're still looking at it; and we'd like
to keep the circuit breakers in their current configuration.

SC Okay.

SC Houston, SPT.

CC Go, SPT.

SC I'm looking at my M074 electronic module
procedures, and it tells me all about how to change it out.
And it doesn't tell me which one to change. I guess what you
want me to do is take the one in the wardroom and put it in
the head. Is that right?

CC That's affirm. SPT, what they're trying
to do is - on one place there, they have you disconnect it
and connect it back up. And that's just to check out the one
in the head.

SC Okay.

CC Skylab, Houston. We were a little bit
late sending up the odds and ends message this morning. It
came up about half an hour ago. I'd like to verify that you
did get it. And we will probably be having to send you a setup
for the M151, if you are planning on doing it today. And
we're getting that ready.

SC Say again, Crip.

CC I'd like to verify that you did get the
odds and ends message. It came up with the last one to come
up. It came up about a half an hour ago. It's a little bit
later than the rest. And, in addition to that, if you are going
to be doing the M151 associated with 183 today, we're going
to be - have to up-link you another pad for that, and
we're getting it ready now.

SC No you don't. You asked me what got me
going early this morning. I got an M151, S183 message after
I asked the ground last night to cancel it. And seeing we were
up early, it told me what DAC to use, which is what
which is the activation checklist, which we didn't do
because we were told not to do it - bla, bla, bla. Anyhow,
I get it in work. You don't need to send me anything.

CC Okay.

END OF TA 7

SL-11 MC416/1
Time: 07:05 CDT
6/2/73

CC Skylab, Houston. We're 1 minute
until LOS. We'll see you again over Madrid at 12:16, 12:16.
PAO This is Skylab Control, 12:12 Greenwich
mean time. About 2 minutes 50 seconds across to Madrid.
Canary Island overlapping passes. We'll leave the circuit
up across that gap in the North Atlantic. At 12:13 Greenwich
mean time, Skylab Control.

CC Skylab, Houston. We're AOS over
Madrid for the next 9 minutes.

SC Hey, Houston, CDR on that odds and
ends message. That heater circuit breaker is in fact OPEN.

CC Understand the circuit breaker is
open.

SC That's right.

CC Thank you.

SC You know Crip, we're not sure
any of these switches; any of these switch breakers on
the STS panel. There's always a potential for inadvertently
opening those darn things, and I was thinking about that
last night, and we probably ought to pass on to the 487 people.
I guess I'll put it on B channel. But if you got exposed
breaker panels with the switch breakers on, you got to
cover them. The guard is not enough. You got to flat
cover them with something.

CC Roger. Do you think there's a chance
that you might accidentally pop that one open?

SC That's what - That's my message really.
Any breaker on panel 200, 201 or 202, always has a potential
for having been inadvertently opened by one of three or four
people up here.

CC Okay, Paul. We copy, thank you.

SC May I add: We've been running with the
lights out up there a lot and I've made a lot of trips
to the command module yesterday, plus changing that tape
recorder paper and around there and it's very easy - you
get to hanging on with one hand, you get floating
around on the (garble) to get in there and knock something
off and you'd never know it.

CC Okay. We copy.

SC Ask EGIL, I already (garble) integrated
to zero for them that way.

CC Skylab, Houston. We just sent you
one more pad and it was one concerning that M151 and 183
we were talking about earlier. And what it is is changing
of the lighting slightly, to handle reduce lighting power
due to the powerdown considerations we got.

END OF TAPE

SL-11 MC 417/1
Time: 07:20 CDT
6/2/73

CC Skylab, Houston. We're one minute to LOS.
We'll see you again over Honeysuckle at 13:02. 1, 3, 0, 2.

SC Roger.

PAO This is Skylab Control; 12:26 Greenwich mean time. Loss of signal through the Madrid tracking station. Honeysuckle, which was inactive on the last revolution, will be up in 35 minutes. On this 272nd revolution, for the Skylab Space Station. Battery condition now 69 percent of total available charge. State of charge is the way it's shown. Let's dredge up some orbital numbers here. Well, would you believe that the display will not show orbital numbers at this time, because the computer's loaded up too far. So we'll wait a while on that set of numbers. 34 minutes to Honeysuckle, 12:27 Greenwich mean time. Skylab Control.

END OF TAPE

SL-II MC418/1
Time: 08:00 CDT
6/2/73

PAO This is Skylab Control, 1300 Greenwich mean time. About 1 minute from acquisition at the Honey-suckle tracking station. We're looking at a change of shift press briefing in the Houston News Room with Flight Director, Milt Windler, at 8:45 a.m. Central daylight time, as soon as he comes out of the morning management meeting. 8:45 with Milt Windler, off coming Flight Director. About 30 seconds to acquisition Honeysuckle. Skylab Control standing by.

CC Skylab, Houston. AOS for 6 minutes. And Skylab, we'll be dumping the tape recorder on this pass, also at Hawaii.

SC Okay, Houston.

SC Are you there, Houston?

CC Go Skylab.

SC Hey, just for information, I just looked in the food chiller in preparation for systems housekeeping 3 BRAVO 1 and much to my surprise there is narry a speck of moisture visible in there.

CC We copy. It makes everyone happy.

SC Yeah. Unfortunately the freezers aren't doing as well. We got a fairly good frost buildup around the seal line on the freezer doors. Frost and ice.

CC Copy that.

SC Hey, also Bill, I see on that teleprinter they wanted to finish the conversation I was having with you yesterday when the fire alarm went off. What I can tell you about the doors is only that - In discussions before, I mentioned compression walking and about access panels and walls as it were. And some people opted for large round holes because you would be moving about head first. Well it's not so and, I don't know, I still feel there's a fair amount of the - the carry over of 1G training in your attitude in here. But we finally translate from place to place essentially in an erect position; erect or semi-sitting. The doors are - are really just what you want, even in Zero G.

CC Copy that. The 1G carry over works pretty well in Zero G.

SC Yep. Yeah, you don't go head first. You push off and if it's convenient you go head first; if it's convenient, you go feet first but most of the time we just move forward or laterally.

CC Copy that. Thank you, Paul.

SC (garble)

SC Houston be advised that I got to have 151 set up between the high intensity lights so we'll have

SL-II MC418/2
Time: 08:00 CDT
6/2/73

that on 183 today.

CC Copy that, Pete.
SC You all owe me one. I got up 10 minutes
early.

CC (laughter) Copy again, Pete.
SC Okay, Bill. On Monday's 08, 09, Foxtrot
from yesterday with some questions and question number 3
referred to S052 which I'll answer if everybody's ready.

CC We're standing by Paul. Go.
SC Okay, the answer to sub question 1 is
no. To 2 is a short period - to allow for a short period.
The only mode I noticed it in, I never noticed it in
continuous. I noticed it a couple of times in standard
and I would have to guess that it went on maybe two times
in each sequence. As I mentioned before, I did not
correlate it going out with frame counter (garble). I also
watched - I ran another building JOP 6 the other night.
And I watched over Pete's shoulder while he did something
on the coronagraph and I have not observed this operate light
going out since I reported it about 3 days ago.

CC We copy that, Paul. And we're going
LOS here. And we will see you at Hawaii at 13:22.

PAO This is Skylab Control; LOS Honeysuckle.
13 minutes to Hawaii. And at 13:09 Greenwich mean time -
stand by one here. During this Honeysuckle pass the
environmental and electrical engineer who's known in the
by the call sign EGIL, E-G-I-L, said that the space station
power load currently stood at around 3600 watts. Current
stage in the state of charge on the battery charger modules,
90 percent. The temperatures tend to range in the mid to
high 70's in the space station. Later in the morning
we'll have an estimate on the average internal ambient
temperature of the space station. And, currently, space
station Skylab's orbit is 232.4 nautical miles at Perigee,
240.7 nautical miles at Apogee. Period remaining fairly
constant at 1 hour 33 minutes 18 seconds. At 13:10 Greenwich
mean time 11 minutes from Hawaii acquisition, Skylab Control.

END OF TAPE

SL-II MC-419/1
Time: 08:20 CDT
6/2/73

PAO (First part not recorded) 1 Greenwich mean time. Skylab space station will be coming over the hill in less than a minute, directly south of the Hawaii Station. Fairly low elevation angle on this first pass of the morning at Hawaii.

CC Skylab, Houston. AOS 7 minutes.
SC Roger, Houston. And everybody is about on their time line.

CC Copy.
CC Skylab, Houston. AOS in 1 minute - correction, LOS in 1 minute. AOS - Goldstone: 13:30. We appreciate very much your helping out on the power management with turning out lights and such the other day. And, if possible, we'd like to keep that up through the day. At the moment, if today is like the last operational day, we'll be in acceptable shape at the end of it, with not much despair.

SC Roger that.

SC Houston, we're probably going to use more today. You know we're running M151, and we've got all the other experiment lights on, plus the high intensity light.

CC We copy that, Pete.

END OF TAPE

SL-II MC-420/1
Time: 08:29 CDT
6/2/73

CC Skylab, Houston. AOS for 14 minutes with
keyhole.
SC Roger.
SC Houston, SPT.
CC Go, Houston.
SC We have a couple questions/comments for
you.
CC Go ahead.
SC Okay. Number one, we are generating as
we go through the days, uh, a number of cans of unused food
and unopened food. We'd like, and there's no hurry on this,
we'd like to know whether we should throw away this food, or
whether we should can it up, put it in a convenient location
and for the follow-on crews to use as overage?
CC We copy, Joe. I assume that food is not
bulged or any way abnormal?
SC It's normal food that we just haven't
eaten.
CC Copy. We'll get you an answer.
SC Okay. The second, this is a comment that
I put on channel B a couple of days ago, and apparently it didn't
get through. We'd like to propose that we don't anymore voice
record on channel B: The M131 results, special authorization
testing, M074, M172 calcs; but rather than - since we have to log
that data by hand anyway, that we bring the logs back. Logging
on voice, is time consuming and it's been quite unsatisfactory.
And that's the principal reason for this recommendation.
CC We copy that, Joe.
SC Okay. The last thing I'd like to ask
on the two maneuver pads today, particularly the Y-rate gyro
maneuver. Whether I should inhibit star tracker update of
orbital plane error, before I go to those special stars, which
I don't know what they are?
CC Okay. We'll get you an answer.
SC Thank you.
CC And, Joe, thank you very much for the
work on 172, that looks as if we finally got a good cal on
that. Certainly appreciate that.
SC My pleasure.
CC We've - there's still questions on clothes
and such, before we can get usable data.
SC Roger. We noticed that our weights as
they were sent up by the medical pads this morning, were quite
a bit higher than our onboard cal curve indicated to us. Are
you guys using a fudge factor?

SL-II MC-420/2
Time: 08:29 CDT
6/2/73

CC Joe, I've had nothing to do with that weight. I don't know where it's coming from or anything else.
SC Okay. I would be interesting, in the next few days, if the medical people could give me a correction to our cal curve, or tell us whether it's any good or not. Our onboard curve.

CC Joe, since I have you, could you tell me what you're wearing in the morning. Are you wearing the triangle shoes, we, this is the last big thing we need?

SC Okay. Weitz is wearing the triangle shoes and he's doing it every morning as a standard thing. Conrad and I are not wearing the triangle shoes. We're wearing our soft shirts and our trousers and socks.

CC I assume also underwear and is this with the long pants or short pants, Joe?

SC It's with (laugh) pants. This morning it was with long pants for me, the previous morning it was with short pants. Sorry about that, but it's taking me that long to climatize.

CC We copy that, and thank you very much, Joe, and we'll get you some good data up.

SC Houston, SPT.

CC Go, SPT.

SC Just a comment, I'm observing the white light coronagraph on TV, and I noticed a stream of particles go by just as the mol sieve cycled. I suspect that you can see (garble) outgassing on that, and the PI might want to know that.

CC Thank you, Joe. Also be advised we're powering up the Y2 gyro, preparatory to the Y-rate gyro scale factor maneuver.

SC Roger.

CC SPT, the computer inhibits that star tracker, so you don't have to bother.

SC Okay, my mistake.

SC Hey, Bill, unless it's escaped me, I can't find, in either the S183 pad or the fill pads for the F183, what DAC they wanted used on the S183 itself. I got the magazine that they wanted to use, but not the DAC. Unless I hear from you I'm just going to grab one out of the drawer.

CC Okay, Pete, we'll try and get you a quick one.

END OF TAPE

SL-II MC421/1
Time: 08:41 CDT
6/2/73

PAO This is Skylab Control. A brief gap between stations across the states now. We'll shut down the circuit after Bermuda LOS for the change of shift press conference which begins at about 8:45 in the Houston News Room. We'll record the Madrid, Canary pass for delayed playback. Standing by for the resumption and remainder of the stateside pass, 13:42, this is Skylab Control.

SC Houston, SPT.

CC Go, SPT.

SC I have a comment and a question regarding S052. We may have reported this to you before because Paul has seen it. When you're in the TB position and you close the doors on S052 it looks terrible. It looks as if you're looking at burning celluloid film. I don't know whether this is reflections into the camera or - or what the problem is, but that's what it looks like, as if a lot white light was getting around the (garble) disc at the moment the door's closing, that's the comment. The question is this: When you are - when you have the 52 doors open and then you roll, even though you are cert-centered you never stay within 20 odd seconds of the center, and you always run your ready lights. My question is, would the PI like us to close the doors whenever we roll and then reopen them?

CC Hey Pete, and while you're thinking that over I made a rapid like decision on using DAC 04 because I'm getting behind (garble)

CC Okay, Pete we're slow on that. It was on pad 907, DAC 03 at f/3 but - -

SC That's M151. I said specifically the DAC that goes on the S183, I got the 151 DAC 03 stuff done. There's two DACs involved, one on the experiment and one on the M151 photo.

CC We copy, Pete.

CC SPT, Houston.

SC Go ahead.

CC If you could give us a time mark when S009 opens; this should be approximately 13:57:05.

SC Okay, if I hear it I'll give you a hack.

CC Right, no big deal. And if it's already open, let us know. And if you should miss it, don't go to a lot of trouble. But if you should miss it, we'll try to get on a later pass.

SC Roger.

CC SPT, Houston. We'd like for you to leave the door open when you are rolling, even though the light come on, and apparently they expected this phenomena that you see with the light from the doors.

SL-11 MC421/2
Time: 08:41 CDT
6/2/73

SC Okay. Thank you. Boy, I sure wish they had told us that. It scared the b-jabbers out of me the other day. And if it makes any difference to them, the PLT has been closing that S052 doors prior to rolling. But I won't do that anymore.

CC We copy that, PLT. And, PLT, there's no problem in that.

SC Yeah, that's just for information.

CC We'll be LOS in 1 minute; AOS Canary at 13:52.

SC Roger.

PAO This is Skylab Control; 13:49 Greenwich mean time. Three minutes or so to the Canary Island Tracking Station. The change-of-shift press conference is scheduled to begin momentarily in the Houston News Center briefing room, with Flight Director Milton Windler. We'll record the Canary Madrid pass for delayed play back at the conclusion of the press conference. At 13:50 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC422/1
Time: 09:35 CDT
6/2/73

PAO This is Skylab Control; 14:35 Greenwich mean time, 1-1/2 minutes out of Honeysuckle tracking station. We have some 25 whole seconds of air to ground taped over Canary and Madrid during the Change of Shift Press Conference which we'll play back at this time and resume live over Honeysuckle.

CC Skylab, Houston. We'll be dumping tape recorders at Honeysuckle; 14:38.

CC Skylab, LOS in 1 minute. Honeysuckle AOS 14:37.

PAO That completes playback of the tape. We'll stand by for Honeysuckle live.

SC Hello, Houston. You there?

CC We're standing by.

SC Okay, SPT is doing his Y axis and I'm ready to do the CBRM malf thing if you're ready.

CC We're ready.

SC Okay.

SC Houston, mark the beginning of the first maneuver.

CC Copy.

SC Okay, on the CBRM - I had to do it twice because I forgot to power up the status light the first time. What happens when you turn the REG off is the light comes on, when you turn it back on the light goes off. However, the meter indications do not change. And the REG volt talkback stays barberpole. The voltage stays at 22.5 and the current stays at 1.5.

CC We copy.

SC I'm going to finish up now by turning that charger off.

CC Copy.

SC Houston, SPT, did you want IV at this time?

CC Stand by half.

CC That is affirmative SPT.

SC I'm a little confused by it. Apparently you want the XUV mark with the doors closed - well that's what you've got.

CC That's affirmative, Joe.

SC Are you happy with it?

CC Joe, we can't see it from this point. We'll be seeing it shortly.

SC Okay, I can't see a thing myself.

CC Copy.

SC Okay when the charger is turned off the charger lights - charger number 3 light comes on - all other indications remain the same.

SL-II MC422/2

Time: 09:35 CDT

6/2/73

CC We copy.

SC I'm going to turn the charger back on and that's the end of my procedure.

CC PLT, Houston. Which voltage was that that you gave us?

SC Just hang loose, he'll be with you in a minute.

SC That's the voltage on the meter. I had REGS selected so therefore - and I read off the volt scale so it must have been REG volts.

CC Copy.

CC Paul, the procedure called for REG BUS and battery voltage.

SC Okay, Houston. We're completing the first maneuver and I'm about to start the second one.

CC Copy that.

SC We have time to do that CBRM procedure over again. When I read it I assumed you meant because the meter was time sheared up and you were calling it. I'll do it again and give you all three values.

CC Thank you, sir.

SC Okay, Houston, CDR.

CC Go, CDR.

CDR I've been meaning to make this comment for a long time for the other crews - when you're down in the wardroom sleep station experiment and the TACS is firing as it's doing now - depending on which one it is and it sounds like shotguns going off outside. The closer ones to you, of course, are louder but it's a very distinct whomp, whomp, whomp, everytime one of them goes off.

CC We copied that, Pete, and we're passing it on - we've also passed it on previously.

SC And Houston, SPT. On my VTR recording last Sunside pass I gave you some shots of the coronagraph with the door closing for the training people.

CC Thank you, SPT.

SC Okay, I've got it, Bill. Are you ready to copy the numbers?

CC That's affirm, Paul.

SC Okay the status light indicates as I - or as I reported before. Now what I didn't notice the first time I did it was that when I turned the REG off, well that figures I guess, when I turned the REG off the REG volts talkback went gray. When I turned the REG back on the talkback went barberpole. The voltage is - the regulator was 22.5, the VOX was 28.2, the battery was 34, regulator current was plus 5, battery was minus 1.

CC We copy and thank you, Paul.

SL-II MC422/3
Time: 09:35 CDT
6/2/73

SC Okay, I'm sorry I misread that the first
time.
CC No problem.
SC Houston, SPT - if you could - Have we got
time left to do the high voltage aluminum and beryllium
throwup?
CC 214:58 over Hawaii if you read.
SC Okay.

END OF TAPE

SL-II MC423/1
Time: 09:48 CDT
6/2/73

PAO This is Skylab Control. We've had loss of signal through the Honeysuckle station; 10 minutes to Hawaii. Later in the day we have the second run of the data gathering for the earth resources experiment package starting at about 18:30 Zulu, actually at about 17:45. It looks like the preparation has begun. This will be a track down the edge of - through the central portion that is of California, coming ashore just north of San Francisco, going down through the San Joaquin and Imperial Valleys, past the Salton Sea and the track continues on down the western coast of Mexico. There are some 36 task and site combinations involved in this pass today. Among the tasks, some of them are technical and others are more in the nature of actual data on a specific geographic location and quite a few of these are directed at developmental efforts in the technology of remote sensing and photography. For example, determining the spacecraft instrumentation sensitivities over various types of terrain to sort out just how sensitive for example the radiometer data is and how it's affected by cloudy or rainy areas in regards to contrast, or reduction of contrast. The S193 radar altimeter will be directed toward identifying terrain characteristics from space which - information from which will be used for satellite remote sensing technology development or topographic and surface properties namely wetness, growth of vegetation, and distribution of snow. Many of these 36 task site combinations involve agricultural resources and land use. Again in the technological development area one of the tasks that have been set up involves developing uniform cartography, nomenclature and symbology for classification of natural resources and they're using rice and range lands as examples in today's runs. Still another agricultural task involves areas - identifying areas in Mexico where crops should be irrigated. Still in Mexico another one has to do with exploration where metals and mining - metallurgy - possible locations for mining operations in Mexico. Going on down the list of basic tasks - volcanic activity and thermal patterns, faults in the southern California region, develop the means for detecting active and inactive fault zones through remote sensing and photographic techniques. Among these are geological studies of faults and tectonic lined intersections and the actual crustal structure in the region. Back again in the technological data gathering the high altitude photography effects of the atmosphere in earth resources remote sensing will be one of the basic aims of today's pass which is ground track number 63. The condition of the environment comes under examination, also, today during the EREP pass, gathering data on pollutant concentrations in the California area. Inventory flooded land for mosquito abatement information.

SL-II MC423/2
Time: 09:48 CDT
6/2/73

Crop damage due to air pollution or disease or insect infestation. Land use in the southern California area and also developing a basis for showing the quality of the environment as detectable from Skylab imagery is among the tasks for today's EREP pass, as well as evaluating these remote sensors for measuring population changes -- urban expansion and this sort of thing that involves people. Two of the S191 infrared spectrometer sites that have been specifically detailed on today's EREP plan are downtown San Francisco and the populated and vegetation area near the Salton Sea in the Imperial Valley in California. These are not -- these two sections of the state are not being surveyed specifically today for data gathering but primarily to relate to ground based observations and verifying the airborne -- spaceborne performance of this particular instrument, the infrared spectrometer. Well, we've had the warbler now for warning 2 minutes to AOS. Coming up on Hawaii, we'll stay up live after Hawaii LOS bridging across to the next stateside pass. Batteries standing at about 81 percent capacity, state of charge.

END OF TAPE

SL-II MC-424/1
Time: 09:57 CDT
6/2/73

PAO Batteries standing at about 81 percent capacity state of charge. We should have acquisition about this time, even though the clock still shows more than one minutes to AOS. I don't have much faith in that clock.

CC Skylab, Houston. AOS.

SC Roger, Houston. Are you ready for the X-ray and analyzer power up?

CC That's affirm, Joe.

SC Okay. That's (garble) power going on now.

CC Copy.

SC Lost my clock back time one.

CC Copy.

SC Where we were counting 4960. The aluminum count is 4850. And high voltage power Al coming on now.

CC Copy.

SC It's not within 200 counts yet, and I'm going to shut it off unless you tell me otherwise.

CC After 20 seconds, Joe, turn it off. We're also turning off the rate gyro at this time.

SC Roger. High voltage Al is off. It looked like it does in the trainer, it was cycling between about 400 or 1000 or 1100.

CC Copy.

SC Okay. High voltage power Beryllium is coming on, now.

CC Leave Beryllium power off, Joe. That's beryllium high voltage off.

SC Roger. It's back off. Is day-one X-REA power off?

CC Stand by, Joe.

SC Joe, it looked good on the ground, so go ahead and turn your aluminum high voltage back on and proceed with the beryllium and leave the XREA on.

SC Okay, aluminum's back on, beryllium is coming on, now.

CC Looking good on the ground, Joe.

SC Roger. It looks good here too, although it's not within the plus or minus 200, I don't think. Shall I leave it on?

CC That's affirm, Joe.

SC Okay. I'll take the red tape off the switches.

CC Copy. And Joe, you're GO to use that.

SC Thank you.

CC Also, Joe, you may be getting double sequences on S054, it appears you might have stopped that. Don't be concerned about this if you see this. We see it unattended OPS also.

SL-II MC-424/2
Time: 07:57 CDT
6/2/73

SC I forgot to tell you, I did see it right at the end of the day, it almost made me miss my last building block. Till I realized what was happening.

CC Okay. Don't be concerned about it, just let it go.

SC Bill, it's okay to cut it off in the middle if you have to move on, isn't it?

CC Joe, you can turn it off, if you have to for expediency, otherwise just leave it on.

SC Okay.

SC (Music).

CC From that music, what are you doing, trying to convert Pete on his birthday?

SC Right, that's a little trickery in western SPT style. (Music).

CC Think you'll make it, Pete?

SC He's grimacing from the M092, we got him trapped in the LBNPD.

CC (Laughter). Copy.

CC The medics have noted unexplained rises in blood pressures.

SC Hey, Houston.

CC Go, Pete.

SC Hey, I think we never answered a question the other day about the prime blood pressure being on the backside of the wedges, the primary one. And we think it is. Now, these I remember having looked at this phenomenon in the simulator, but Joe doesn't and Joe's the expert, which kind of makes us conscious. As I remember from the simulator the procedure that drove the wrong way, you just drove it off the sun till it finally got to the point where it reached minus infinity in an imaginary plane or something, turned around and came back and was operating properly then, but it doesn't. As I say, it appears to me like what I remember would be on the backside of the wedges.

CC We concur with that, and procedure you just read is correct.

SC Okay. When we get a chance we'll try it, all right?

CC Copy, uh, Roger that.

CC Skylab. We're going LOS here in about 30 seconds. We'll see you at Goldstone, about 4 minutes.

SC Roger.

CC Also, SPT. On the S009 opening. The nominal time should be 153015. It may open as much as 15 minutes early or as much as 3 minutes late.

END OF TAPE

SL-II MC425/1
Time: 10:08 CDT
6/2/73

PAO This is Skylab Control. Brief gap between Hawaii and Goldstone. It sounds as though Joe Kerwin is attempting to rehabilitate Pete Conrad's taste in music. Crew at this time getting squared away with the day's activities. The prime activity scheduled during the day will be earth resources package data-take or survey along the California coast - coming ashore just north of San Francisco, down through the San Joaquin and Imperial Valleys, across Baja California and western coast of Mexico. The actual data gathering starts at 3:04 p.m. central daylight time and ends 10 minutes later at 3:14. The data gathering ranges from infrared spectrometry to photographs taken in the multispectral cameras of the geological features along the California coastal region. Urban density, land use in general, technology development on new ways to make maps of how the Earth is being used or misused, as the case may be. Should have AOS at Goldstone at this time. 15:10 standing by. Skylab Control.

CC
3 minutes.

Skylab, Houston. We're AOS for about

SC

Roger, Houston.

CC

SPT, Houston. We're not seeing time mode on 82A. If you haven't started it, we would like for you to start it at this time.

SC

How (garble)? All right, Houston, and it says omit 82A, which I did.

CC

Copy, SPT.

CC

SPT, look opposite 1505. Is it possible you're confusing that with the 1639?

CC

We're going LOS in 45 seconds. We'll have you again at 15:20, at Bermuda.

SC

Roger, Bill. I copied that time on S009, and at the last cycle I didn't hear it opening, but it closed at 14:19:30.

CC

Copy, Joe. And did you get my transmission on the ATM schedule times?

SC

No.

CC

Okay. Look opposite line 15:02 time. Is it possible you were looking at 16.37?

SC

Yeah, you're right.

END OF TAPE

SL-II MC426/1
Time: 10:19 CDT
6/2/73

CC	Skylab, Houston. AOS for 10 minutes.
CC	Skylab, LOS in a minute. We're - we'll
have you at Canary at 15:31.	
SC	Roger.

END OF TAPE

SL-II MC-427/1
Time: 10:30 CDT
6/2/73

PAO This is Skylab Control; space station now over the mid Atlantic. Coming up on Canary Island tracking station. With overlapping coverage through Ascension Island, for the next several minutes. We'll stay up for the two stations. At 15:31, standing by. Skylab Control.

CC Skylab, Houston. AOS for 6 minutes.

SC (garble)

SC Houston, SPT.

CC Go, SPT.

SC Okay. Just for the PI's information on 82A. We have to run his experiments strickly on time, even in the auto mode, because we have no free power and no operate light, ready light cycle. It goes from READY to OPERATE and then stays there the rest of the pad. And I'm trying not to cut off any frames.

CC We copy, Joe. Joe, they think that it should stop automatically, so you don't have to worry about it stopping.

SC I'm sure it will stop automatically, but I don't know that. That's the point, so I just have to estimate when I think it's timed out and then move on. And Houston, SPT. On active range at 18, have the PIs seen sunspots in white lights, because on the XUB switch display I don't see any, 10 days ago either.

CC We copy that, and we'll query it.

SC Thank you.

CC Joe, for information, the ground saw only one sunspot yesterday and white light.

SC Okay. I know it's hard to describe these things but I'd be interested to know where it is. There's a filament running right through the middle of this active region. There's new bright plages in the northern or northwest end of that filament, I wonder if that's what they're calling active region 22, and I wonder if that's where the sunspot is?

CC We'll ask. Joe, ground confirms that that was the area that they saw the sunspot in. The northwest end, also active region 22 is no longer visible from the ground.

SC The middle of that was cut out, Bill, would you say again?

CC The ground confirms your location of where they saw the sunspot yesterday. And active region 22 is no longer visible from the ground.

SC Roger. Understand. There's wash there that wasn't there two days ago and there's another little area of bright plage about two-tenths farther out on about the 180 radial axis. I haven't had a chance to look at it close yet, I don't know if it's in an emergent flux region or not.

SL-II MC-427/2
Time: 10:30 CDT
6/2/73

CC
SC
too.

Copy.
This is all on H-Alpha so they can see it

END OF TAPE

SL-II MC428/1
Time: 10:40 CDT
6/2/73

SC (Music: Up With People)
CC I see you've brought Pete's blood pressure
back to normal.
SC (Laughter) I have that song in twelve
languages, depending what country we're passing over.
CC My problem is I can't understand any
of them.
SC Yeah.
SC (Music)
CC SPT, Houston.
SC Go ahead.
CC It's just a reminder we're coming up
on the SAA here for the S056.
SC Roger. Thank you.
CC (Garble) here. Carnarvon at 16:10.
SC Roger.
PAO

This is Skylab Control; 15:48 Greenwich mean time. Skylab space station has gone over the horizon from Ascension Island Tracking Station, the outset of revolution number 274. Skylab will be coming over the Carnarvon, Australia, horizon, approaching from the west, and will be acquired by the antennas at that station in some 22 minutes. The flight surgeon commented that the ground indications during the last Canary and Ascension pass were that the M022 inflight lower body negative pressure and M093 electrocardiogram runs were going quite well and on schedule, according to the Flight Plan for today. The commander, Pete Conrad, and Pilot Paul Weitz are scheduled for a meal period starting in about - well, they should be underway about in another half hour, while Science Pilot Joe Kerwin operates the solar astronomy equipment in the telescope mount. Twenty minutes to Carnarvon. At 15:50 ZULU, Skylab Control.

END OF TAPE

SL-II MC429/1.
Time: 11:09 CDT'
6/2/73

PAO This is Skylab Control. One minute to acquisition at the Carnarvon, Australia tracking station. Slightly over 9 minutes total time over Carnarvon. Brief gap of about 6 minutes over to Guam. We'll leave the circuit up over to Guam. Standing by on air ground for the Carnarvon, Guam pass, at 16:10 ZULU, Skylab Control.

CC Skylab, Houston. AOS for 8 minutes.

SC Roger, Houston.

CC Skylab, we'll be LOS in about a minute.

Guam at 16:25.

SC Roger.

CC Skylab, it appears we will not get you on Guam. Goldstone at 16:19 is the next AOS.

SC Okay.

PAO This is Skylab Control. Loss of signal through the Carnarvon station. And it appears that after all we will not have the Guam tracking station this pass. They have technical problems out there, cannot support this particular orbit. Therefore, our next station acquisition of Skylab space station will be in 28 minutes at Goldstone for the end of revolution 274, and the start of 275. At 16:20 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC430/1
Time: 11:48 CDT
6/2/73

PAO This is Skylab Control at 16:48 Greenwich mean time; 50 seconds approximately to acquisition at Goldstone. The biomedical officer during the Carnarvon pass earlier in this revolution commented that the run with the commander on the M093 vectocardiogram experiment had been completed but that Pete Conrad stayed on the bicycle for an additional period to get the benefit of the exercise. Standing by for Goldstone and the stateside pass, Skylab Control.

CC

Skylab, Houston; AOS for 19 minutes.

CC

Copy.

CC

CDR, Houston.

CC

SPT, Houston.

CC

SPT, Houston.

SC

Go ahead, Houston.

CC

Two notes here. On panel 202 the ILCA heaters 1 circuit breaker OPEN.

SC

Okay. What's the other one?

CC

S052. We need the frames remaining.

SC

S052 frames remaining 6527.

CC

Copy.

CC

CDR, Houston.

SC

Wait one. We're taking pictures.

SC

Yeah, go ahead, Houston.

CC

This is a request that the S009 period adjust be changed from 300 to 120. We'd like for you to give us a time mark, if you do not initiate S009 on time.

SC

Houston, when do you want me to do it.

I'm (background noise) can I get back to this in about an hour.

CC

We were simply asking you to modify the

details, Pete, the CDR pad details.

CC

If you like, we can give you an advisory in an hour.

SC

Oh, Boy! Eating with one hand to stay on schedule and shooting some pictures with the other - That's why I shut you off there pretty quick.

CC

Copy.

SC

I just got some good pictures of Bermuda with the 300 millimeter for the guys in the tracking station down there.

CC

We copy, Pete.

SC

And it's a lovely day down there and with the 300 millimeter -

END OF TAPE

SL-II MC-431/1
Time. 12:04 CDT
6/2/73

SC And it's a lovely day down there,
and with the 300-millimeter, and the girls look very nice
on the beach.

CC Come on, Pete, you haven't been up that
long. Your eyes aren't that sharp yet.

SC Even Pete's wife looks good.

CC He's probably looking with his mind's
eye.

SC You know what happens when you get to be
43, you get farsighted.

CC Speak for yourself, Pete. I've passed
that mark.

SC Well, now that I've caught up, let me give
you a time line one on S183. Let's change that operation to
a one man operation and I can say that without the 151 you
can lop 15 minutes off that time line for a 192F183-3 type
operation. It's a very simple one man job, and that'll give
you plenty of time.

CC Thank you, Pete.

SC Right on. I want to say that up until
lunch time, your schedule has worked very, very well. We've
had an opportunity to stay right on it and take enough time
to do, I think, all the jobs right. As we go along here we
may, as I say, 183 obviously became a one man operation, we'll
pick up some more flight planning time for you along the line.

CC We copy. Skylab, LOS in one minute.
Ascension at 17:17.

SC Roger.

PAO This is Skylab Control; 17:09 Greenwich
mean time. Lose of signal from Bermuda. Ascension in 7-1/2
minutes. Ascension Island tracking station. Average battery
state of charge in the ATM batteries, now around 17.7 percent.
Temperature is still in the upper 70's in the workshop, ambient
temperatures. Skylab II backup commander Rusty Schweickart
is working today in the neutral buoyancy simulator at Marshall
Space Flight Center in Huntsville, Alabama. He's investigating
possible EVA procedures for freeing the one good workshop
solar panel. Schweickart is looking at tools and techniques for
prying loose the aluminum angle which is keeping the solar
panel from opening out to its full power generating position.
Right now, it's uncertain whether Schweickart will return to
Houston, today or Sunday, to share his experience and rec-
ommendations with the people who are planning the mission.
Whether or not to recommend the extravehicular activity to -
that Conrad would like to do. To go hand over hand along the
solar panel wing beam and pry loose the piece of aluminum
angle. 6 minutes to Ascension Island at 17:11 Greenwich
mean time. Skylab Control.

END OF TAPE

SL-II MC432/1
Time: 12:16 CDT
6/2/73

PAO This is Skylab Control; 17:16 Greenwich mean time. About 50 seconds now away from acquisition at the Ascension Island Station. 5-1/2 minute total pass time over this station, a lonely island in the South Atlantic. Standing by for resumption of communications between spacecraft communicator, Bill Thornton, and the crew of Skylab Space Station.

CC ...for 5 minutes.

SC Roger.

CC CDR, Houston.

SC Go ahead, Houston.

CC We want you to reenable the startracker: the inner gimble, minus 90; outer gimble, plus 463. Also we're sending up a message for ATM power down. However, we do not expect any difficulties.

SC (garble) Okay. Okay, Houston, and what's the star?

CC Achernar.

CC CDR, the star is Achernar.

SC Okay.

CC Skylab, LOS in 1 minute. AOS Carnarvon,
17:47.

SC See you.

PAO This is Skylab Control; 17:23 Greenwich mean time. Final Ascension Island Tracking Station pass of the afternoon. That's at the outset of revolution 275. Next station - Carnarvon, in 24 minutes. We'll return for the Carnarvon pass in 24 minutes. At 17:24 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC435/1

Time: 13:39 CDT

6/2/73

SC Houston, PLT.
CC Go, PLT.
SC Okay. I just turned S192 power on per
the pad. Correction: S191 power on, but not the cooler yet.
Do you want me to turn the cooler on?
CC Stand by.
CC Shouldn't have it yet, Paul.
SC Okay.
CC CDR, Houston.
SC Yes.
CC We're trying to get a JOP 9 into unattended
operation, if you can go to experiment pointing mode for us
at this time. We're also LOS in a minute, and we'll have you
Vanguard 18:53.
SC 18:53. Roger.
PAO This is Skylab Control. Loss of signal
through the Mila station; Vanguard in 9 minutes. At 18:44
Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-433/1
Time: 12:47 CDT
6/2/73

PAO This is Skylab Control.
SC And this is the CDR. Why don't you go
ahead with - with your SO09 information.
CC Be right with you.
SC Okay. And S183 is off and running on
time; looks normal.
CC Pete, on your CDR detail pad at 18:31,
change 300 to 120 for the period adjust.
SC Okay, 18:31 period adjust from 300 to 120.
CC That's affirm. Also, just as a reminder,
after field 303 exposures are complete, the sequence switch
must be placed to STANDBY prior to setting in the exposure
times for field 223.
SC Roger. Understand.
SC Houston, CDR.
CC Go, CDR.
SC I don't how much it affects 183, seeing
they're such long exposures, but since I've had the long ones
running, we've had two TACS firings. And I'll note that to
you rather than on B channel - the people may want to think
about that. I really don't know why we keep getting TACS
firings. They've been firing all day and all afternoon.
CC We copy that, Pete.
CC Pete, we're looking at the TACS firing
here, and except during the Y maneuver, the record shows no
TACS firings.
SC Roger. I hear what you're saying there,
Houston. But I've been standing in here, and it's fired twice
since 17:32. Or we have a little man sitting out somewhere
around the base shooting skeet every once and awhile.
CC Copy that you hear the TACS firing louder
than what we're saying.
CC Skylab, we're going LOS in one minute.
We are not receiving from Guam; so we will see you at Goldstone
18:26.
SC What happened to Guam?
CC Copy. Antenna problems.
SC Wow, okay. See you at Goldstone.
PAO This is Skylab Control; 17:59 Greenwich
mean time. Loss of signal through Carnarvon, midway through
revolution 275. In normal circumstances we'd be coming up on
Guam acquisition in about a minute; however, that station is
having antenna problems on the ground. Therefore next acquisi-
tion will be Goldstone in 26 minutes. At 18:00 Greenwich mean
time, Skylab Control.

END OF TAPE

SL-II MC-436/1
Time: 13:51 CDT
6/2/73

PAO This is Skylab Control; 18:52 Greenwich mean time. A minute out now from a very brief pass by the Vanguard tracking station. Approximately 5 minutes, very low elevation angle, 2.3 degrees. Then the next pass after Vanguard will be an hour and ten minutes away, Goldstone. That will be the onset of the EREP pass for today. EREP track 63 across the California coastline north of San Francisco, down through all the central valleys of California on down the western coastline of Mexico. Standing by live air-ground for the Vanguard pass.

CC Skylab, Houston. AOS for 4 minutes.
SC Hi, Houston. Are you there? Hello,
Houston.

CC Standing by, Pete, go ahead.
SC Okay. We've been getting C&G SATS and also on the EREP tape recorder on checkout we came up with a malf light. We've chased it down, it says to clean recorder which has already been done. We are cleaning it in a specific place that I found that was so dirty. Do you think that will solve the problem. If it does not we'll switch to recorder C.

CC We copy that, Pete. We also would like to continue on attended commands on JOP 9. If you are through with the DAS?

SC It's all yours. Houston, the situation is that, on the tape recorder all indications are normal at the slow speed, however when we go to high speed, we get both a malf light and a tape motion light. Well, we just finished cleaning it again and we got quite a bit more, a fair amount, I'd say quite a bit, comparatively speaking. Some dirt off the rollers and we're talking about switching to number 2 recorder.

CC We copy, Paul.

SC Okay, Houston, CDR. For your information this is within a couple of seconds, S009 just closed at 185625 give or take a couple of seconds.

CC We copy. And PLT, we agree with going to the second tape recorder if you can not get that one going. Skylab, LOS in one minute. Goldstone at 20:03.

SC Roger.

SC Houston, if you're there. On the EREP, reading C-7, Charlie 7, at 24, 2 - 4.

CC We copy, Pete.

PAO This is Skylab Control; 18:59 Greenwich mean time. Loss of signal through the first evening pass over Vanguard. The next three or four REVs passed through

SL-II MC-436/2
Time: 13:51 CDT
6/2/73

Vanguard. And we'll have the final pass of the day through Canary and Ascension. We miss Carnarvon and Guam for the next several revolutions, - the orbit precesses westward. Next stateside pass acquisition at 3 minutes past the hour, 3 minutes past 3 o'clock, Houston time, and that will be the start of today's Earth Resources Survey Pass. And at 19:00 Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC434/1

Time: 13:24 CDT
6/2/73

PAO This is Skylab Control; 18:25 Greenwich mean time. About 50 seconds away from Goldstone acquisition across the States. Note to newsmen in the Houston area: Kenneth S. Kleinknecht, who is director or manager of the Skylab program at Johnson Space Center, will hold a status briefing in the newsroom between 3:00 and 3:15 today. Repeat: status report by Kenny Kleinknecht, Skylab program manager at Johnson Space Center, between 3:00 and 3:15 in the Johnson Space Center newsroom. We're AOS Goldstone for a stateside pass. Standing by for the conversation between Bill Thornton and the crew of Skylab.

CC Skylab, Houston. AOS for 13 minutes.

SC Hi there, Houston. We got a hack on S009 closure. We closed at 18:14:16. The period adjust has been set to 120, and I'm standing by to sign it off tight.

CC Okay, Pete. And we have one here we would like you to do as soon as possible.

SC That figures. Go ahead.

CC Okay, we want you to load TA to 3 minutes amend 52030. That's 52030 and 50003; that's five tripple ball 3.

SC Hey, is that it? Load down in 3 minutes 5203050003?

CC That's affirmative. This is to minimize TACS firing. We've - on the Y-axis MOMENTUM inhibit and also venting, this has disturbed the situation. We then want you to go to the ALT CMG mode. I'm sorry. That's attitude - attitude CMG mode.

SC Right now?

CC As soon as practical.

CC Want to maneuver minus 6 degrees in Z. Commands are 52020; 5 four balls; another 5 four balls; 51 two balls 6.

SC Okay, want to maneuver 6 degrees in Z; 52020; 50,000; 50,000; and 51006.

CC That's affirm. Okay, strap down initialization: 52012 and 5 tripple balls 5.

SC After the maneuver, right?

CC That's affirm.

SC Got anymore?

CC Yes. Go to SI mode. Then after 3 minutes, re-position startracker to inner gimble, minus 0090; outer gimble, plus 0810.

SC Okay.

CC And your star is still Achernar.

SC Got anymore?

CC That's it for the moment, Pete.

SC Okay. Stand by; it's in work.

SL-II MC434/2
Time: 13:24 CDT
6/2/73

SC I've been explaining why we're doing all that while we're doing it.

CC Pete, we've had a momentum build-up from several factors here. The momentum was inhibited. Also, the Y-axis maneuver caused the build-up; there was venting from M092. All of these have caused a large build-up.

SC Okay.

SC (garble)

CC Say again, Skylab.

SC Ready for some words on the EREP test,
Houston?

CC Standing by.

SC First off, is - I cannot get the S190 camera to run off BUS 2 power only. I had to have both buses powered up. And the test came out and showed everything functioning normally. The frame counter's advanced one count, and all the film marks moved approximately 2.6 inches.

CC Copy.

SC Hey, Houston, are you there?

CC Go ahead, Pete.

SC For some silly reason the S009 started in reset all by itself just now. And - cause I had turned the power off after closing it, and I turned the power on 5 minutes in advance after setting the period adjust. And I was sitting there in reset, and all of a sudden it just took off by itself. And we've reclosed it so it (garble) at 18:36:35. But we just thought we'd pass that little word to you.

CC Thank you, Pete.

CC PLT, Houston.

SC Mark S009 is off and running again.

CC We copy, Pete.

SC Okay, it looks to me like the maneuver has settled down. I'm going to go ahead and reinitialize if you agree to that.

CC That's affirmative, Pete. Go ahead.

CC PLT, Houston.

SC Who're you calling?

CC The pilot-calling Paul.

SC Go ahead.

CC During the EREP checkout, did the S190 MALFUNCTION 5 light remain on?

SC They didn't go on because they did not turn the display power on. I assume that the intent of the BUS 2 - I did not have display power on; so I don't know.

CC We copy.

SC Houston --

END OF TAPE

SL-II MC-437/1
Time: 15:00 CDT
6/2/73

PAO This is Skylab Control; Greenwich mean time 20:01. The second Skylab Earth Resources Pass is scheduled to begin over the west coast of California in approximately 3 minutes. This pass will use 5 of the Earth Resources Experiment Package instruments, the S190, the S191, S192, S193, and S194. The only instrument not scheduled for use in this 10 minute pass down the California coast and into Mexico, is the Earth Terrain Camera. Commander Conrad and Pilot Weitz will be operating the Earth Resources Experiment Package and the Multiple Docking Adapter, while Science Pilot Joseph Kerwin is conducting housekeeping experiments in the orbital workshop. We expect to have AOS very shorty. We'll keep open the line. There will be a briefing in the news center immediately following the Earth Resources Pass, with Kenneth S. Kleinknecht Program Manager of the Skylab Office at the Johnson Space Center.

SC That one.
CC Skylab, Houston. AOS for 14 minutes.
SC Right on, Houston. Loud and clear. How
do you read?
CC You're loud and clear also.
SC Okay.
CC And be advised that the San Francisco
area is clear except over the water. And the salt and sea
area is also supposed to be clear.
SC We in attitude, Joe?
SC Okay, we're starting the data tapes,
Houston, SPT says we're not quite in attitude, yet.
CC Copy.
SC Tape recorders function normally. We have an
S192 READY light. We do not have an S191 READY light. Bravo 7
reads 85, Charlie-7 reads 40. S190 READY light it is okay, the
only malfunction light we've errored S190 today is the cover
closed light. However, I can see that the cover is not closed
that's an easy one to take care of. S193 altimeter, is
operating, the READY light is on ON. S194 READY light is
ON.
CC Copy.
SC While we have a break here, Houston, I
want to make sure you understand that during the EREP pass,
two or three days ago, whenever it was, we did not get a
satisfactory data alignment. We are going today with the
prelaunch pad data line.
CC We copy that.
PLT How's the weather down there, Pete?

SL-II MC-437/2
Time: 15:00 CDT
6/2/73

PLT Okay. Be advised, Houston, this run is not starting off to be the best one. We got a little behind. We had big problems with the 192 alignment, that we will discuss in detail with you later. And jumping back and forth between checklist and pads, I started S190 early, I guess it started when we started EREP system and also S192 wasn't ready when we started EREP system. So we've been pulling more tape than we thought and we will have used more film.

CC No problem.

SC I'm getting an intermittent altimeter on lock on S193 the altimeter. I've never had the READY light on the altimeter since turning it on.

SC Okay. The mode 2. The altimeter seems to be functioning normally, I've got a READY light. At the beginning of the sequence I had an intermittent altimeter unlock light, however, I have not had it for the last minute or so.

SC Okay.

SC Stand by to give me an AUTO Channel E, 5 seconds. Okay, punch it, give me an AUTO CAL, please.

SC That's right, it's stopped working.

SC You still there, Houston, or did we lose you?

CC We're still with you.

PLT Well, okay. The ETS operation says he got both lights all night. This altimeter mode appears to still be functioning very - just as I said that I got a one quick/ altimeter on lock, it's on right now. Off and on. May have been a pretty good mode though.

CC Paul, that unlock occurs over rough terrain sometimes.

PLT Yeah, understand, just let you know, Bill.

PLT Okay, the READY went out right on time. Now to do one.

PLT Okay, I just had a notice. I had Beta Alpha 8 called up, CAL Amp current just dropped to zero. I guess that's all right, the way the things are working.

PLT Woops. Missed S192.

PLT RAD/SCAD appears to be functioning all right.

PLT You've a number?

PLT Okay, Houston. You still up?

END OF TAPE

SL-II MC438/1
Time: 15:14 CDT
6/2/73

SC (garble)
SC Okay, Houston, you still out?
CC We're still with you.
SC Okay.

SC What I saw on Alpha 8 out of the corner of my eye - I don't know what that indicates, but it indicates that at least the AUTO CAL sequence was initiated for me. We seemed to have gotten rid of MALF lights on S190. A loose knot on the end of the stick there caused us to use the rest of the tape and a few extra frames. I did reinitiate S190 so that we covered the end of the (garble), and then I stopped it manually at the time advertised on the pad. Other than that, the pass seemed to go pretty good.

CC We copy.
SC Houston, CDR.
CC Go, CDR.

SC (garble) let me ask you to review this for the next pass. Are the tape recorder (garble)? Since I had turned off the S192 circuit breakers the other day when I was cleaning the tape recorder number 1. So would that cause a MALF light when checking the tape recorder in the 192 mode? If so, that may be our problem.

CC Stand by half.
CC Skylab, we'll be LOS in about a minute and a half. Vanguard AOS is 20:27.

SC Okay.
CC Pete, they think your analysis is correct. However, they're checking further on this.

SC Okay. We'll go ahead and check it out when we get done here. We can do that real quick. We'll fix back the one and give her a go.

CC Copy.
PAO This is Skylab Control at Greenwich mean time 20 hours 18 minutes. Pilot Paul Weitz described to the ground the various activities associated with the recent EREP pass, which began 500 miles west of San Francisco, ran down the California Coast into Mexico. His discussions were primarily aimed at S193, the microwave radiometer altimeter experiment. The project scientist here at the Johnson Space Center is Dallas Evans. He also discussed the S190. This is a bank of six cameras which photograph a 92 mile swath with ground resolution of 100 feet in six different wavelengths. We will now switch to the - to the NASA News Room in Building 1 for a press conference with Kenneth S. Kleinknecht, manager of the Skylab Program Office of the Johnson Space Center. This is Skylab Control at Greenwich mean time 20 hours 19 minutes.

END OF TAPE

SL-II MC-439/1

Time: 15:53 CDT, 9:20:53 GMT

6/2/73

PAO This is Skylab Control, Greenwich mean time 20 hours, 53 minutes. During the press conference just concluded we had a live pass over the Vanguard tracking station of approximately 8 minutes and 30 seconds. During this pass of the Paul Weitz, Pilot Paul Weitz discussed with the ground some of the difficulties they had in the EREP pass. Science Pilot, Joseph Kerwin reported that he had completed transfer of the electronics unit from the MO-74 specimen mass measurement device from the ward - waste management area to the ward-room area. The ground completed confirmation that after the vehicle returned to solar inertial attitude, the attitude which the spacecraft is placed in order to get maximum Sun to the ATM solar panels. The EGIL officer reported we 16 completes which showed that all CBRM's were brought back on line and the state of charge at this time is approximately 70 percent. We'll bring up the line for that live pass at this time. We've had AOS over Hawaii in 43 minutes. This is Skylab Control.

CC Skylab, Houston, AOS for 9 minutes.

CDR Okay, Houston. We gave tape recorder 1 a fast checkout. It's okay, so you can scratch one up to the ole' CDR. I left the breakers off, not the - well I left the 192 breakers off. Paul was checking it out for me. It was my fault, we've (garble) a speck on that. I've reconfigured the tape recorder too cause I assume you'd like to run that roll out.

CC We concur with that, Pete.

CC And CDR, we have a change in flight plan for you here.

CDR Okay. Go ahead.

CC To avoid preventing a dump, a momentum dump this evening, we want you not to inhibit that 2115. Correction. Correction. We want you not to inhibit at 2129 which means that you will not have to enable that 2248. At the same time, we want you to start your PT and PH at 21:15. We also want to start the MO-74 cal at 21:15. However, don't start this until the dump is over which should be 21:10. And then follow both of these with the M-131. This is to avoid a reset routine, Commander.

CDR Okay. (Laughter) (Garble) just (garble) all three of us. (Laughter) great. We'll do it.

CC Look - yeah let's try again. Just do a image - the PTH and the M-131, also the MO-74 and M-131.

CDR We got it.

CC You're squealing Skylab.

SPT Houston, this is - you're squealing, SPT. I've got a manful job of getting the EREP

SL-11 MC-474/1
Time: 13:40 CDT
6/3/73

PAO
SC
PAO

This is Skylab Control - -
Roger.

- - Acquisition through the Carnarvon, Australia, tracking Station. Very brief pass at Carnarvon. Same applies for Guam. The crew at this time, in Skylab preparing for EREP or Earth Resources Experiment Package run number 3.

PAO Today's Earth resources survey run will come ashore on the Pacific Coast, about 200 miles north of San Francisco and run down through central Mexico and come out again on the Pacific Coast near Guatemala. The total pass length is 11 minutes and begins at 2:22 p.m., central daylight time. And while the weather is predicted to be about 0 to 3/10ths cloud cover in the northern portion of the pass, the weather in Mexico has clabbered up considerably to where the cloud cover is ranging up to 8/10ths total cloud cover.

PAO Quite a few of today's EREP studies have to do with geology in locating specific formations, fault lines, mineral deposits. And one of the hoped for surveys in the Mexico area, the state of Chihuahua, was a search for hydrocarbons, such as coal and oil. Earlier, the hydrocarbon had been erroneously - included diamonds, and this proves not to be true.

PAO Not a great deal of conversation going on over Carnarvon. But we'll stand by for Carnarvon. There'll be dead air between Carnarvon and Guam. And then the state-side pass for Earth Resources Survey. The crew will probably be rather quiet during that period, when they're operating the EREP instruments. Standing by at 18:47, Skylab Control.

CC Skylab, LOS in 1 minute; Guam at 18:58.
And like to remind you about the decrease in the lights as much as possible before the EREP pass.

SC

Roger.

CC

And we have you configured for rate gyros X1 and X2 in control.

SC

Okay. Total configuration on X1 and 2;

understand.

CC

Copy - oger that.

PAO This is Skylab Control. We have about a 9-minute gap here between Carnarvon and Guam stations. We'll take the circuit down at this time and return briefly for Guam. Between Guam and Texas, something like 26 minutes. At 18:49, Greenwich mean time; Skylab Control.

END OF TAPE

SL-II MC-475/1
Time: 13:56 CDT
6/3/73

PAO This is Skylab Control; at 18:57 Greenwich mean time. About 1 minute from acquisition and a very brief pass over the northwestern edge of the Guam tracking station. About 3 minutes total time across this station. Standing by to monitor any conversation that might come through Guam, as the crew aboard Skylab prepares for their Earth Resources Survey today. Flight Director Don Puddy, here in the Control Center polled flight controllers, to determine if they were GO for EREP pass and there were no dissenters.

CC Skylab, Houston; AOS 3 minutes.

SC Roger.

CC And Skylab, gyro Y1 is being compensated. You'll be in nominal configuration for EREP with Y1 and Y3. And at this time EREP is GO.

SC You bet your boots it is. Got a quick question for the EREP guys. Everytime 194 comes up we get a malf light, because - before it really gets up to speed, the cold cycle, the cold cal, and all that jazz. And I've been turning it off and back on to reset the malf light, is that okay?

CC Stand by, Pete.

CC CDR, the malf light is function of temperature. You can either leave it or cycle it as you will.

SC Okay. Thank you. Also we need a little more warm up time on S191. It wasn't up to temperature, my warm up time, I let it run 10 minutes longer, just turned it on.

CC We copy.

CC Skylab, LOS in about 30 seconds. Goldstone at 19:19.

SC Okay.

PAO This is Skylab Control; 19:03 Greenwich mean time. About a 16-minute gap here across Guam station to stateside pass, starting at Goldstone and down through the Texas tracking station. About a 4000-mile EREP pass, which contains 32 different areas to be scanned by photographic and remote sensing equipment aboard Skylab. Aircraft, NASA research aircraft, will be flying over the same areas and operating similar instruments to help correlate the data gathered by Skylab equipment. Back again in 15 minutes for EREP pass, along ground track number 6, at 19:04 Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-II MC-476/1
Time: 14:18 CDT
6/3/73

PAO This is Skylab Control; 19:18 Greenwich mean time. About 1 minute away from acquisition at Goldstone for the Earth Resources Survey across the western United States and central Mexico. Skylab II backup commander, Rusty Schweickart, and fellow astronaut, Ed Gibson, today spent a little over an hour and a half in the neutral buoyancy simulator in Marshall Space Flight Center, in Huntsville, Alabama. They were trying all three methods of loosening the aluminum strap, which is holding the solar array beam on the side of the orbital workshop. They tried the pry bar, and bone saw, and the wire bundle cutter, and each method was successful. Schweickart and Gibson deployed a pole from the EVA hatch in the MDA, and using the wire cutter on the outboard end, used it as a clamp, made a handrail for it out of the pole. Schweickart went on down the handrail to the solar array panel and performed all three operations with the three different methods of removing the strap. We're AOS over the stateside pass, standing by at 19:19.

SC Set the antenna out there, again. It's going to do all kinds of crazy things this time - No, not so crazy. On this one, just back and forth.

CC Skylab, Houston. AOS for 15 minutes.

SC Okay. We're in the maneuver.

CC Copy.

SC If you've got nothing else to say, Bill, for the EREP guys, for information, I put this on tape. Right now, Charlie 7 temp reading is 41 percent. Bravo 7, thermal detector temp is reading 87. That's 87 percent.

CC Copy.

SC Here. You want this light on?

SC It's on.

SC We there yet, Joe?

SC No. Our attitude, I mean. Okay. SCAT's on, (Garble) on; two ready lights.

SC S192 is on. We've got a ready light and we're not in attitude yet.

SC S190 running. The ready light.

SC Okay. Status of the EREP C & D panel for right now - everything is normal, except no S191 ready lights and the F190 cover clothesline is on.

SC S191 thermal detector temp. I can make it 86, if I tried hard.

SC Okay. SCAT's gone STANDBY, (garble) is gone STANDBY. In track Contiguous, O. SCAT's on, RAD's on.

SC Plau/ I'm now, for some reason, getting a flickering gimbal light on S193.

CC Copy.

SL-II MC-476/2
Time: 14:18 CDT
6/3/73

SC Yeah. That's the pitch gimbal.
SC SCAT's STANDBY, RAD's STANDBY.
SC Cal on 194 and the altimeter is going
on. Got a READY LIGHT.
SC The other person reports that he got
all three of his EBF sites this time.

END OF TAPE

SL-II MC-477/1
Time: 14:26 CDT
6/3/73

SC The altimeter looks good, though I haven't seen the flicker of the unlock light this time.
SC Okay 192 is checked now. Stand by for an AUTO CAL on that (garble) in 5 seconds. Now, give me an AUTO CAL, please. Thank you.

SC Yeah.
SC Okay. I just got an altimeter unlock light, and it was on for about 3 seconds and it went out. It flickered a couple times and it's staying out now. Probably was the end of the mode, I would guess.

SC Okay. ALTIMETER is STANDBY, 94, OFF; 93 RAD, OFF; and ALTIMETER OFF.

SC Should be the gulf coast.

SC Again?

SC Can you see that cut in Padre Island?

SC Okay, gang. On the status report on the 191 (garble), it's struggling, but it sure isn't coming down. I can tell it's on the heavy side of 85 percent now.

SC Okay. 192 to READY. And we got a kind of a (garble) tape blinking light, but it finally came on. For information, it took almost 10 seconds for that tape motion light to come back on, (garble) switching 192 to READY.

SC The tape motion light is flickering, round. It's on, and then it starts flickering, getting dimmer. It'll go out and then comes back in. It's been on steady since I started telling you that.

SC 192 to STANDBY - CHECK. Should go it's STANDBY and a the tape motion light blinked off and came right back on.

SC We're waiting for that to tell you about it.

SC Also for information, EREP gang, (garble) Charlie 8 tape recorder keeps remaining in oscillating between 20 and 40 percent, about 1 cycle per second.

CC Time for you to start the maneuver, Joe. Give me a mark when you start it. Will you please.

SC Where?

CC You hit the stop. You guys - you guys really had that S190 figured out. It stopped exactly on the pad time.

SC Okay, we're going off (garble), Houston.

CC We copy. Skylab, Houston. We'll be LOS in 1 minute. Vanguard at 19:44. We would like for you to delay housekeeping 70A, that's the mol sieve fan, until pre-sleep activities today.

SC Okay.

PAO This is Skylab Control; Greenwich mean time 19 hours 35 minutes. Third Earth resources pass of the skylab mission has just been concluded, with the Skylab vehicle

SL-II MC-477/2
Time: 14:26 CDT
6/3/73

recording data, running on a path from north of San Francisco, crossing the state of California, Nevada, and Arizona and cutting through the heart of Mexico. We have LOS now. The next station pass will be Vanguard in 8 minutes. This is Skylab Control.

END OF TAPE

SKYLAB II

VOL. IV

SL-II MC-497/1
Time: 06:34 CDT
6/4/73

PAO This is Skylab Control; 11:34 Greenwich mean time. Less than 1 minute now from acquisition at Carnarvon - as you were, Honeysuckle Creek tracking station in Australia. Should be getting the first communication with the crew of Skylab during this pass, some half hour into the - past the normal 6 a.m. Houston time wake period for the - or wake time for the crew. Again faced with a rather busy day of gathering scientific data. Earth resources survey track- or pass number 4, along track number 19, four runs with the solar astronomy experiments in the Apollo telescope mount, and later in the day, the commander, Pete Conrad, and pilot, Paul Weitz, will be alternating the two medical experiments, M092, inflight and lower body negative pressure experiment.

CC Honeysuckle; and got you for 2 minutes.
Standing by.

SC Good morning. We're all up and operating.
Nice to hear you back well and rested, Richard.

CC Yes, sir. Glad to be back.
PAO And M093, vectorcardiogram. We have live air-ground from Honeysuckle, standing by for resumption of communications.

CC Skylab, Houston. We're about 1 minute from LOS. We're going to see you at Goldstone at 12:03. We're going to be dumping the airlock module data recorder at Goldstone. Also, the last two messages we have for you, which are the S192 alignment procedures for Paul, are going to be uplinked there. And the third thing is, we're going to be commanding a program pitch at Goldstone, which will update the rate gyro Y3 scale factor, and this data is based on what we received when you did the Y-axis maneuver for us the other day. So we'll see you at Goldstone.

SC Okay.

PAO This is Skylab Control; 11:39 Greenwich mean time. Loss of signal from Honeysuckle Creek, Australia, as the Skylab space station crosses the islands of New Zealand. And in 24 minutes, we'll begin the first stateside pass since the crew has awakened. The activities today in the Flight Plan hinge primarily around EREP, Earth resources survey number 4, and four runs with the solar astronomy experiments. Discussion of today's Flight Plan likely will resume over the States. However, the crew will be involved in getting breakfast and squaring away the space station in the post-sleep activities period that's allocated at this time. And at 11:41 Greenwich mean time, this is Skylab Control. Back in 22 minutes.

END OF TAPE

SL-II MC498/1
Time: 07:02 CDT
6/4/73

PAO This is Skylab Control at 12:02 Greenwich mean time. About 50 seconds away from acquisition at Goldstone for stateside pass. Not much conversation expected during this particular stateside pass, but we'll leave the circuit up live to catch any words that do pass between spacecraft communicator, Dick Truly, and the crew of Skylab. Standing by at 12:03 Greenwich mean time, Skylab Control.

CC Hello again, Skylab; Houston. We're stateside now for 11 minutes.

SC (garble) Houston.

CC And about the only thing I got for you guys this pass is we are going to be starting a few commands to power down some electrical power things so that one - now that you guys are awakened can take care of.

CC Skylab, Houston. Be advised we're commanding the (garble) into solar inertial mode, and we're going to close the fine sun sensor door.

SC Roger.

SC Permission granted, Mr. Truly.

SC Thank you, sir.

CC Skylab, Houston. Be advised very shortly we're going to be commanding the PRIMARY COOLANT LOOP, OFF, and you'll get a caution and warning.

SC Roger. (garble)

CC Roger.

CC Skylab, Houston. We're going to drop out here in about 30 seconds. Have about a 2-minute break until (garble).

END OF TAPE

SL-II MC-499/1
Time: 07:17 CDT
6/4/73

CC Skylab, Houston. We're - got you at Bermuda for about the next 5 minutes. And we are going to have a keyhole in this pass, lasting about 1 minute. It's going to be about 2 minutes from now.

SC How can you say Bermuda? I can look out and see it's the Great Lakes.

CC By gosh, you're looking backwards, cause you just passed it.

SC Well, it's the last thing I can see besides the clouds.

CC Roger that.

SC You're right. In the morning, that window does look backwards. We get a heck of a good look at where we've been.

CC Roger.

SC (Garble) Houston, CDR.

CC Go ahead, CDR.

SC Will you ask FAO how much money the SPT, and the PLT paid them to give the CDR the cleaning duty today, rather than JOP 12?

CC (Laughter) Stand by, I'll ask him. He's right here.

SC You there, Houston?

CC Affirm, PLT, go ahead.

SC Sometime today, Dick, could you find out for us, how we make sure when we get to the end of the roll of film on the Hasselblad, because, I don't know if you remember, but Fred the - (laughter) the frame counter stopped reading early in the game and we've been trying to keep track just by keeping good logs. We're not too sure of that. So what are the indications when it comes to the end of the film, please?

CC Roger. We'll get you an answer.

CC Skylab, Houston. We're about 30 seconds from LOS. We're going to see you at Canary at 26 and the next time you guys are up in the airlock module, on panel 201, we'd like to make sure the amp air - hour intergrate for the - the amp-hour integrator for PCG8 circuit breaker is closed, panel 201.

SC Okay. It's a bad morning, isn't it?

CC Roger.

END OF TAPE

SL-II MC-500/1
Time: 07:25 CDT
6/4/73

CC Skylab, Houston. We're AOS at Canary for
the next 7 minutes.

SC Okay.

SC Hey, Dick.

CC Go ahead.

SC That amp-hour integrator circuit breaker
is closed. Why did you ask if it was open?

CC Stand by 1

SC Well, I assume that maybe your valves
went to zero on that, but ours are reading good up here. All the
amp-hour meters except number 8, which I reset for you, but it looks
good on board.

CC Roger. Number 8 was the only one that
we saw reset to zero, and we just wanted you to check it for us.

SC I thought you wanted me to check number 7.

CC Negative. Maybe I said it wrong. It was
8 we wanted.

SC Yeah. Well, it's closed now. You remember
I reported that the first day or so that I inadvertently opened
that circuit breaker.

CC Roger. Understand. It's in the configura-
tion we wanted now, Paul.

SC Okay. Looks like you guys got a pretty good
charge on number 7 yesterday.

CC Yes, sir; 100 percent.

SC I saw that. You want to believe the
secondary instead of the primary.

CC That's affirmative. That's what we did.

SC Houston, SPT. I've got a couple of
medical questions for you.

CC Go ahead.

SC Okay. Number 1; you sent me a pad for
a M133 temp check tonight. Now I have two questions about that.
One; in general, I'd like to be reminded how many total repeti-
tions of M133 are in this flight. The spacing is a little bit
heavier here than I thought it was going to be. Number 2; the
temp check looks as if it's the same thing I did the first night
out. Here's a temp from the sleep compartment, report on its
condition and find out that it didn't hack it. I wonder if you're
really interested in doing it over again, and this losing another
its day of data.

CC Roger, Joe. Stand by.

SC Okay. And while you're working on that
one, we also received a message to reduce the top workloads in
our M171. And I realize that I made a speech several days ago
about the heat and the inefficiency up here. The temperature has since
dropped to essentially normal. And we've acclimatized to it perfectly.
We're (garble) learning how to ride the bike, although we haven't
seen giving you the M171 corrected numbers. Nothing's come back
up to us yet from the ground. And I'd like to see it. Our new data

SL-II MC-500/2
Time: 07:25
6/4/73

on board indicates that the decreases might be too much, especially in the case of the SPT and the CDR. The PLT is probably okay because the higher the workload, the greater the zero g factor becomes. But we'd like to counter recommend to our M171 PI friends, that Pete go to 140 instead of 125. And that I go to 170 instead of 155. We can finish the protocol there, and I think they'll get more data if we're a little above our 75 percent work rate than if we're definitely below it. Over.

CC Roger, Joe. Understand. Why don't you let us consider that one and we'll get back to you.

SC Okay.

CC Skylab, Houston. We're about 20 seconds from LOS near Canary. We're going to see you at Honeysuckle at 13:11.

PAO This is Skylab Control. Space station Skylab has gone over the hill from Canary Island and Madrid Tracking Station. Next station in 35 minutes will be Honeysuckle Creek, Australia. The calculated average ambient temperature in the Skylab space station, this morning is 76.5 degrees Fahrenheit getting more comfortable every day. The electrical power situation remains unchanged with charger battery and regulator modules numbers 3 and 15 still off line. Current state of charge, average battery state of charge is 71.2 percent, on the 16 batteries functioning properly. Back in 34 minutes for the Honeysuckle pass. 12:37 Greenwich mean time this is Skylab Control.

END OF TAPE

SL-II MC-501/1
Time: 08:10 CDT
6/4/73

PAO This is Skylab Control; 13:10 Greenwich mean time. About 50 seconds now from acquisition at Honeysuckle. Standing by for the Honeysuckle pass, which is about 9-1/2 minutes long; Skylab Control.

CC Skylab, Houston. We're AOS at Honeysuckle for the next 9 minutes.

SC Roger, Houston.

SC Hey, Dick. Ask the EREP guys if I have to turn the EREP COOLER to FLOW for this 192 checkout. Will you, please?

CC Affirmative. I will.

CC And, Skylab, while we're getting that answer, I've got a couple of answers on a couple of questions for - that Joe asked. First of all, on the M133 scheduling for this mission, we've already accomplished four runs of it. We've got nine more to go, for a total of thirteen. And originally prior to flying this flight, we had scheduled fifteen; so after this run that's coming up this evening, I think, we will start going to alternate days. And the total for the mission will be 13. Also, on the question of the sleep cap, what we're just trying to ascertain is whether or not those sleep caps that were launched down in S913 - or that sleep compartment locker are any good or not because if they are not, we probably are going to have to fly up another package on the command module. And the - about the only difference in this particular procedure is that we would like to go through the caps and get a very good check on them before using them, and so we will not lose the night's data. Out.

SC Okay, Houston. What happened the first night was that I extracted the cap from 913 and it's appearance wasn't right. The electrode sponges were soft, and as if they had some gas in them. By putting the cap on, the sponges were a little drier than normal, but I did get a good checkout. I got six green lights. And by morning the six green lights had disappeared enough to apparently destroy much of that night's data. And it's just that - I was just questioning whether the PI wants to run that risk again because that's probably what'll happen. I have an alternate suggestion, which is that I try and doctor the sponges before I put them on by inserting KY jelly or Vaseline or something from the IMSS and - to try and make them last.

CC Roger, Joe. No, we don't particularly want you to have to use jelly or doctor them up. We'd prefer to go ahead and use the Skylab III caps before having to do that.

SC Okay. There is a definite difference in appearance and moisture content between the two groups of caps. And we already know that.

CC Roger. I understand.

SL-II MC-501/2
Time: 08:10 CDT
6/4/73

SC Okay, and I'll go it one more night and see what happens.

CC Okay. Thank you, sir. And in answer to the PLT's question: affirmative. We would like to go to FLOW on EREP COOLER in order to do that S192 alignment check.

SC Okay.

SC Oh no, for their information, Dick - For their information, the four large thumbscrews I did check during verification; they were all tight. The four small thumbscrews that hold the heat exchanger plate on, I could get - you know, just a little bit of a turn - less than an eighth of a turn. They were not really tight like the big ones were though.

CC I understand.

SC (Garble) EREP (garble) is everything I expected it to be as far as difficulty in moving it.

SC And the comment does not require a reply, Houston.

CC Roger.

CC And, Skylab; Houston. One more comment about the EREP today. During the EREP prep, we'd appreciate it if you'd check the - measure the tape remaining on tape recorder number 2. And assuming that you have - you have at least 1-1/8 inch tape remaining, tape recorder 2 is GO for EREP data take today. In the event you have less than 1-1/8 inches remaining, switch over to tape recorder number 1, and it's already loaded, and use that for the data take.

SC Okay, we'll take a look right now.

CC Okay.

SC It's going to be close. I'm not sure, but I think we may have enough.

SC Yeah, I'm going to get a tape to get the measure.

CC Okay. We think you should, too, Pete. But we just want to make sure.

SC And the S183 is off and running on time.

CC Roger.

SC Houston, how would you go for an inch and a quarter?

CC Roger. We're at GO with that. Thank you much. And, Skylab; Houston. We're about 45 seconds from LOS. We're going to see you at Hawaii at 13:31, and be advised we are going to dump the data tape recorder at Hawaii.

PAO This is Skylab Control; 13:21 Greenwich mean time. Next station - Hawaii in 9 minutes. Later on in the morning, the Skylab crew will conduct Earth resources experiment package survey run number 4 for this mission, along groundtrack 19. And a fairly extensive list of task and sites, specific discipline task and locations have been lined out for the Skylab crew this morning. In the first

SL-II MC-501/3
Time: 08:10 CDT
6/4/73

category, the so-called targets of opportunity are for gathering data for local and other government agencies for river, coastal erosion, seepage around dams, for example, marine ecology; how it's affected by coastal interface; land use and the local water table in several locations across the country: Powder River Basin in Wyoming and Montana, the Mississippi River, northeast Alabama, Puerto Rico, the Virgin Islands, the Platte River, Omaha, Nebraska, Sioux Falls, South Dakota, and Lincoln, Nebraska. In the geological category, associated with this, will be scanned and photographed soil erosion and volcanic activity, faults, information gathered for potential mineral exploration in highway engineering in Wyoming, in general, and then specifically in the Big Horn Mountains of Wyoming and Montana. The sea surface state in the North Atlantic toward the end of the pass will be surveyed by the EREP instrumentation. Then the Skylab altimeter will be calibrated with part of the run after the Atlantic shoreline is crossed. In the 500 series of task sites, which are mainly related to meteorology, cloud heights and various types of clouds will be photographed and an attempt made to relate these cloud heights to specific weather systems over the continental United States. The 600 series of task sites for today are aimed toward gathering data on coastal geology, specifically the location of gravel deposits, survey of marine life distribution, and evaluating the Earth resources survey instrumentation for oceanic survey work, such as water depths, survey of coastal wetlands and marshes for the ecological impact significance. The specific sites are Puerto Rico and Virgin Islands offshore platforms or shelves, and the coastline of South Carolina and Georgia. Moving on into the 700 series of tasks - these are primarily hardware development and evaluation of the performance of remote sensing techniques and instrumentation. Specific sites are the Puerto Rican trench, Black Hills of South Dakota, and the Omaha, Nebraska region. And the 800 series, which looks at the ecological affects of strip mining and evaluates remote sensing as a technique for measuring changes in urban populations since the most recent United States census in 1970. And the specific sites for this series are Holt County, Nebraska; the so-called Indiana test site, where the strip mining is involved; San Juan, Puerto Rico; and Atlanta, Georgia. We're 3 minutes away from Hawaii acquisition; so why don't we just stay up for acquisition from that site. And since the gap between Hawaii and Goldstone is rather brief, we'll just stay up all the way across the States on this particular orbit, which is number 301. At 13:28, standing by for Hawaii and stateside; this Skylab Control.

END OF TAPE

SL-II MC502/1

Time: 08:28 CDT

6/4/73

CC Skylab, Houston; AOS for 9 minutes.
CC SPT, Houston.
SC Go ahead.
CC We have a one time message here on the caution and warning. We're going to turn down the canister fluid loop for power conservation. Prior to this we want you on panel 207 to PUMP DELTA-P, OFF. COOLANT TEMPERATURE, OFF. HEATER TEMPERATURE, OFF.
SC On 207 you want to inhibit DELTA-P, COOLANT TEMP and HEATER TEMP. Is that right?
CC That's it; on caution and warning AM 207 panel.
SC Roger, Houston. And will this affect ATM operations at all this morning?
CC Negative.
SC How long are you going to leave the loop down?
CC It'll be down approximately 2 hours.
SPT, your message was delivered and appreciated and acknowledged.
SC Okay. Houston how much time you got?
CC About 7 minutes.
SC Okay. I just want to make clear that I'm in a process of doing the - for the EREP guys - in the process of doing their 192 alignment. This is the third time we have done all these procedures, and I just want us to be sure that they realize that messing with that stinking visible focus ring may cause us to lose the whole ball of wax. We'll go ahead and we'll try it as described here. I got another question. Sometime today we'd like maybe a little discussion on the nadir aligned. Pete and I have noticed that we haven't done a nadir align yet, and we just wondering what's the rationale behind not trying another one.
CC We copy that.
CC Paul, this was really chewed over yesterday on the ground and it was felt that this alignment was absolutely necessary on both thermal and visible.
SC Well, I assumed that it was. I'm not complaining about doing it, I'm just saying that there's nothing different in this procedure that we haven't tried already. But we'll - we'll hear it whack.
CC We copied that last one, Paul.
CC PLT, reference your question on the Hasselblad film drive; the motor drive simply stops. In other words, you can't get any advance. When you reach the end of the film, the signal may be either red or white.
SC Okay. Thank you, Bill.

SL-II MC502/2
Time: 08:28 CDT
6/4/73

CC And, Paul, they were curious as to whether
you were having any difficulty with the counter on the
Hasselblad.

SC Yeah, it stoped counting at about 22,
which we reported at the time.

CC We copy.

PAO This is Skylab Control. We're still
estimating the change-of-shift press conference at approximately
8:45 in the Houston News Center. We'll take down the air-
ground circuit during that period and accumulate recorded
conversation for delayed playback. LOS Hawaii in 3 minutes.
Skylab Control standing by.

END OF TAPE

SL-II MC-503/1
Time: 08:39 CDT
6/4/73

CC Skylab, we're going LOS. We'll have
you at Goldstone at 13:42.
CC AOS, Goldstone 8 minutes.
SC Roger.

END OF TAPE

SL-II MC-504/1
Time: 08:49 CDT
6/4/73

CC Skylab, Houston; AOS - LOS in approximately
30 seconds. Bermuda 13:54.

PAO This is Skylab Control. Estimating start
of the change of shift press conference with Flight Director,
Chuck Lewis, in approximately 5 minutes. He has just left the
Control Center and is in route to the news room. 13:52,
standing by. Still have about 8 minutes or 9 minutes remaining
in this state-side pass as soon as Bermuda acquires. We'll
close down the line after Bermuda LOS and tape the Madrid
Canary conversations for delayed playback after the press conference.
13:53, Skylab Control.

CC Skylab, Houston. AOS 8 minutes.

SC The numbers for the EREP guys are about
ready to copy.

CC We're standing by, Paul. Go.

SC Okay. The meter readings after the 30-minute
warm up: Bravo 3 was 83, Charlie 3 was 88, Delta 3 was 85,
Charlie 5, according to our dope, is in the middle of out of
tolerance at 40, Delta 5 is 13, Delta 6 is 40.

CC Copy.

SC Okay. Now another thing. I came back
turned the align switch on. The align ready light does not
come on. I went back to the panel, opened the door, gotta ready
light closed the door, got the door closed, came back here and the
align ready light was on.

CC Copy.

PAO This is Skylab Control. The change of
shift press conference with Flight Director, Chuck Lewis, will
begin momentarily in the Houston News Room. We'll take down
the air-ground circuit at this time, and tape for delayed
playback, the Canary Island and Ascension passes of the Skylab
space station. At 14:01 Greenwich mean time, this is Skylab
Control, out.

END OF TAPE

SL-II KC-505/1
Time: 09:26 CDT
6/4/73

PAO This is Skylab Control; 14:27 Greenwich mean time. During the change-of-shift press conference, we had the Skylab pass over the Canary Island and Ascension Island tracking stations. And have accumulated slightly over 3 minutes of air-to-ground tape recording, which we will play back at this time. And then come up again in 18 minutes from now for the Carnarvon and Honeysuckle tracking stations. Roll tape.

CC Skylab, LOS in 1 minute; Canary, 14:03.

CC Skylab, Houston. AOS 16 minutes.

SC Well, I found it, Houston. I got to hand

it to you. What's - I'm still working on it - What were the preflights values of thermal alignments, please?

CC Stand by.

SC Just sing them out. I'll be back down on it and I won't answer you.

CC Copy.

CC PLT, Houston. The preflight thermal was 65; 65 percent.

SC Okay. The best I can get out of this is 45. Now we got the same problem with the focus. Let me read some knob settings to you. I'll be back in half a minute.

CC Copy.

SC Okay, Houston. The settings are X 0.530; Z 0.510. And the focus is back all the way out, until it begins to stop. The meter indications, when I adjust X and Z, indicate a good focus. And as soon as I move it very far at all, and I'm talking about 0.002, for instance, the value does start to drop. Now I got the same problem in focusing it. As soon as I turn the focus ring back in toward the detector, I almost lost it a couple of times there, and it's just a flat deflection. I can get a higher reading on it by pushing down; that is, into the case on that focus ring, but it just won't stay.

CC We copy that, Paul.

SC Okay, I'm going to press on then and try the visible alignment again, as prescribed here.

CC Copy.

SC Can I get a couple of words? I just happened to notice that twitch when I caught it, because you can see where the focus is now. It was quite a bit out of focus with that ring only backed on backed out three-quarters of a turn. And we could very well - easily - what we obviously did was miss it before in our searches.

CC Copy.

CC Skylab, LOS 1 minute; Carnarvon 14:46.

PAO This is Skylab Control. That concludes playback of the Canary Island, Ascension Island tracking pass on revolution 302. It'll be up again in 15 minutes for Carnarvon and Honeysuckle Creek, Australia, tracking stations. Currently, the Skylab space station is in an orbit measuring

SL-II MC-505/2
Time: 09:26 CDT
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231.6 nautical miles at perigee by 241 nautical miles at apogee.
Period of orbit - 1 hour 33 minutes 11 seconds. At 14:31
Greenwich mean time; returning in 14 minutes, Skylab Control.

END OF TAPE

SL-II MC-506/1
Time: 09:45 CDT
6/4/73

CC Skylab, Houston. AOS for 9 minutes.

CC Skylab, Houston. The power load has been less than expected this morning, and because of that, we have not powered down the coolant loop and do not presently plan to do that. This status changes, we will notify you.

PAO This is Skylab Control; presently the ATM batteries are showing average state of charge and 87.5 percent total capacity. And as mentioned by Cap Com, Bill Thornton, the coolant loop is being left on because of - sort of surplus of power, if one can call it surplus in this mission. 14:51, standing by for the remainder of the Honeysuckle pass, Skylab Control.

CC Skylab, we're going LOS in about 30 seconds. We will see you at Hawaii at 15:09. Also, we will be dumping the tape recorder at that time.

SC Okay, Houston.

SC Okay, Houston; be advised in the process of attempting to tweak up the visible alignment of S192, which there is no way you can do without putting loads on that whole assembly, I've lost the thermal alignment. I've gone back and starting this procedure over again to see if I can find it.

CC We copy that.

PAO This is Skylab Control. We apparently have had loss of signal from the Honeysuckle Creek, Australia, tracking station. 12 minutes now to Hawaii. Pilot, Paul Weitz, commenting that he was having some difficulty doing the S192 alignment in preparations for the EREP pass later on today. That he was going to attempt another alignment. 11 minutes to Hawaii pass, the final pass of the morning over this station. At 14:58 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-507/1

Time: 10:08 CDT, 11:15:08 GMT

6/4/73

PAO This is Skylab Control; 15:08 Greenwich mean time. 50 seconds away from predicted acquisition at Hawaii as the Skylab space station comes over the horizon. It'll be in view of Hawaii for about 6 minutes and after about a 5-minute gap, will be picked up again by Goldstone for fairly solid stateside tracking pass; Goldstone, Texas, Mila, and, Bermuda. Now nearing the end of revolution 302 and the start of revolution 303. We have AOS at Hawaii, standing by for air-ground communications.

CC Skylab, Houston. AOS 6 minutes.

SC Hello, Houston.

CC Go ahead, Skylab.

SC Okay, this is the SPT. Are y'all ready for me to inhibit the TACS this morning?

CC That's affirmative, Joe.

SC Okay, that'll be in work momentarily. Meanwhile, I'd like to tell you about some progress we've made in riding the bicycle, so you can pass it along to the M171 CI.

CC Okay.

SC For their consideration in determining our protocol, we have discovered - we have made an amazing breakthrough, that the - Stand by one. That if you run the bicycle with no restraints at all, you can almost achieve your ground work protocol. And we'd very much like to let the PIs get - for the PIs to let us run one more M171 protocol at our nominal rate to see what happens. Over.

CC We copy that, Joe. How far are you having to lean forward? Wan you say a bit about your technique?

SC Okay. We'll, there's three things to do with your hands. Obviously there going to take up part of the strain. One is to put them on the pedals, - I mean on the handlebars.

CC Okay.

SC Ideally, the handlebars would be longer than they are now and would kind of sweep down around you so you could grab them in the right place. Another is to grab the center adjustment strap between your legs and hold on to that. And a third way is to put your hands on the overhead and push. And if you alternate those 3, you use different arm and shoulder muscles, and it's really pretty good.

SC Hey, Bill?

CC Go ahead.

SC I just ran my flight protocol block 5 minutes of 175 for a total of 20 minutes, and at the end of run, I had a 151 heart rate. And it's much closer to ride the bike on the ground. It's - it's so much better it's

SL-II MC-507/2

Time: 10:08 CDT, 11:15:08 GMT
6/4/73

unbelievable. That restraint really is just a hindrance to you, and we've had to use different buckles in riding it. When you're riding holding on to the handlebars, you're more closely approximating running rather than riding a bicycle. When you ride holding on to the strap with the strap pulled down, it's sort of like if you see a cowboy get on a bronc. That's the way you're holding yourself on there. Ah - bareback bronc, and when you ride it that way, that uses the muscles in your legs the absolute closest to the way it is to riding a bike in lg on the ground. And when you put your hands over your head you get you can adjust your body back and forth to achieve something inbetween running and riding on the ground.

CC Thank you very much.

CC Hold off on the TACS inhibit until after the EREP pass, Skylab.

SC Okay, will do. And another little note on the bicycle, Bill. We did a little inflight maintenance this morning. With the onborn lubricant, we lubricated the squeaky pedals.

CC Copy that also. How do you feel that a restraint - an over the-shoulder restraint would work? Do you think this would be more effective - a relatively fixed one that was well padded? Not straps.

SC Oh, it'd be worth a try, Bill. But based on the shoulder restraint we have, the big problem with it is that it interferes with respiration. And the waist restraint interferes with leg motion and circulation.

CC We copy that, Joe, and thank you very much.

SC Aye-aye.

SC Hey, I think Joe hit the right (garble) there when he said a set of handlebars that sweep further back around you, sort of out and around your sides, where you can close your arms along the vector that your riding the bike and pedaling it at, which means that you're doing - We're obviously expending work through our arms that's showing up in the data, and that's why they're cutting our data back down, in my mind, besides the restraint harness being a hindrance, because you've got to hold yourself down somewhere, so you are expending energy through your arms which is showing up - not showing up in the bike work.

CC Copy that, Pete.

SC But you sure expend the least doing it the way Joe just described.

CC And we'll pass this on and get you a word back. And we're going LOS here in about a minute. We'll see you at Goldstone at 15:22.

SC Roger.

END OF TAPE

SL-II MCS08/1

Time: 10:16 CDT, 11:15:16 GMT
6/4/73

PAO This is Skylab Control. Space station Skylab now in a gap between Hawaii loss of signal and Goldstone acquisition of signal. We'll leave the circuit up for the next 4 minutes during this gap, and continue on through the stateside pass. At 15:17 Greenwich mean time, Skylab Control.

CC Skylab, Houston; AOS for 5 minutes.

SC Roger.

SC Houston, you got nothing else right now.

Let me give the EREP guys a couple words on this alignment jazz.

CC They're pretty interested. Go ahead, Paul.

SC Apparently, as you try to make these adjustments, which are tight, the visible align adjustments cannot make without deflecting the cooler in the optical (garble). But apparently what happens over a period of 5 to 10 minutes then with the vibration of the pump is that is the thing settles back. Now I'd lost the thermal, I started the search procedure, (garble) the pad over again, found it again; I got 42 to 45 percent back. That's what's going to stay. I'm trying to get a nice focus on the visible. I'd blown the whole stinking invisible and it was down to nothing on the right, and 30 on the left. And while I was finding the thermal again, I looked back to visible and it was back up to 80 on the left. So it's all kind of a mystery. The machine seems to run itself; it gives you an alignment if it wants to. Right now I'm using the drink it up and go away for 3 minutes routine and hopefully we'll have some fairly good readings for this EREP today.

CC Copy that.

SC Houston, SPT.

CC Go, SPT.

SC I haven't got a ready light this morning on the white light coronagraph. And I'm not sure why. Would you ask your people to look at it, please?

CC Wilco.

CC ATM says your discriminator is still firing, and you need to go a bit more Sun center, Joe.

SC Okay.

SC Is the scale (garble)

SC You there, Houston?

CC We're standing by.

SC Okay, it's SPT with another ATM question.

On the unattended operations, when we power down, you guys want the EVA auto door switch in storage or in inhibit? I'm not clear on that point.

CC Joe, want to leave that in inhibit.

SL-II MC508/2

Time: 10:16 CDT, 11:15:16 GMT
6/4/73

SC
SC
CC

Okay, we'll change the cue card.
(Music)
I'll take it.

END OF TAPE

SL-II MC-509/1
Time: 10:28 CDT, 11:15:28 GMT
6/4/73

CC I take it that is Conrad and his
wardroom ensemble.

SC Boo, Bill. You can do better than
that. This is identify the music contest. We'll give
a steak dinner to the first person who can identify that
composition.

CC Stop the music.

SC Let me ask you one more ATM question,
Houston, on H-alpha 1.

CC We're going LOS here, Joe. I'll pick
you up again in a few minutes.

SC (garble) INTERLOCK switch is OVERRIDE,
momentarily. Over.

PAO This is Skylab Control. A brief gap
here between Goldstone loss of signal and Mila acquisition
of signal; about a minute away from reacquiring. Science
Pilot, Joe Kerwin, the long-hair music fan aboard the Skylab
crew, was playing a cassette tape recording of Sergei Rachmaninoff's
variations on a theme by Paganini, of Paganini; and a sort
of musical recognition quiz for the ground. 15:30, standing
by; 40 seconds to acquisition through Mila. Skylab Control.

CC SPT, Houston.

SC Go ahead.

CC Joe, you were going over the hill on
that last transmission and if that was about the H-ALPHA NIGHT
INTERLOCK switch, leave it on OVERRIDE.

SC It was and thank you very much.

SC Hello, Houston. I got an alignment
back (garble). I refuse to try to tweak it anymore. I don't
want another 45 minutes of mental agony.

CC We copy that, Paul, and we're in
complete agreement down here.

SC Okay, let me give you the numbers on
this now. Stand by.

SC The thermal reads about 45, and let
me give you the micrometer settings, which are different.
The micrometer settings are now 5155 - correction, 5152 and
530X.

CC Copy.

SC The visible readings are 90 percent
on the left scale, 52 percent on the right.

CC Copy.

SC Can't you guys do something about
arranging better weather on the east coast? We haven't gotten
a good shot of that yet.

CC We're working on that one, Fete.
As you know, Texas sends most of its clouds over there.

SC We just saw an interesting weather
phenomena up here - air traffic control phenomena. Right over

SL-II MC-509/2

Time: 10:28 CDT, 11:15:28 GMT
6/4/73

Lake Superior there must be a climb corridor out of one of the major cities there. There were six parallel (garble) all strung out side by side that obviously come up on some departure route, and the clouds were such that the clouds remained, and you could tell by the - went through the cloud how old it was with relation to the next one. You could probably know the airplane spacing and figure out how fast the clouds spread.

CC Yeah. We copy, Pete.

CC Pete, did you ever happen to see anything of that tropical depression that we pointed out off Mexico a day or so ago?

SC Yeah, we did, but it didn't look like it amounted to too much at the time.

CC Copy.

CC SPT, Houston.

SC Go ahead.

CC We have an update to the cal rock on the pass at 18:24.

SC Stand by 1.

SC Go ahead.

CC Put the XUV SLIT BIAS switch IN and point to the following coordinates: roll, minus 10800; down, minus 135; right, plus 150. This will probably position the HCO raster and other grading scans for the first three orbits of cal rock observations. And this change is because of a shift in the area of observations of the (garble) regions.

SC Roger. Okay, how is the cal rock getting along? Is it on schedule?

CC It's on schedule for 17:00Z lift-off,

Joe.

SC Okay.

CC Skylab, LOS in 1 minute. Ascension at

15:48.

SC Bye.

END OF TAPE

SL-II MC-510/1

Time: 10:40 CDT, 11:15:40 GMT
6/4/75

PAO This is Skylab Control. Loss of signal through Bermuda; final Ascension Island pass of the morning and for the next several orbits. In about 6 minutes, acquisition at Ascension. Skylab space station now at the start of revolution 305. 15:42 Greenwich mean time, Skylab Control; still on the air for the upcoming Ascension Island pass.

END OF TAPE

SL-II MC-511/1
Time: 10:47 CDT
6/4/73

CC Skylab, Houston; AOS, 9 minutes.
SC Roger.
CC And, Skylab; we'll be dumping the tape
recorder over Carnarvon, your next pass.
SC Okay.
CC Skylab, LOS in 1 minute; Carnarvon, 16:20.
SC Roger.
CC And have you had any luck on the primary
fine Sun sensor so far.
SC Haven't tried it yet, Bill.
CC Copy.
PAO This is Skylab Control; 15:59 Greenwich
mean time. Loss of signal through the Ascension Island tracking
station in the South Atlantic. Next station coming up,
Carnarvon in 20 minutes, Carnarvon, Australia. And Guam and
then the upcoming stateside pass will be the data take
period, starting at 12:04 central daylight time, running
through 12:16, for Earth resources pass number 4 of this
mission. 20 minutes to Carnarvon. At 16:00 Greenwich mean
time, Skylab Control; out.

END OF TAPE

SL-II MC512/1

Time: 11:19 CDT, 11:16:19 GMT
6/4/73

PAO This is Skylab Control; 16:19 Greenwich mean time. Acquisition at Carnarvon, Australia, in 40 seconds approximately; probably a little sooner than that. The crew of Skylab space station presently involved in preparing for the Earth resources survey pass which starts at 12:04 central daylight. We have acquisition data coming in from all vehicles. So at this time we'll stand by for the Carnarvon and Guam pass.

CC Skylab, Houston. AOS Carnarvon, 10 minutes.

SC Roger, Houston.

SC Hey, Bill.

CC Go ahead.

SC I could have put this on B channel, but they just started dumping a recorder. Pass to the followon crews, will you. I've - the slip to soft boots, the slippers with the zippers up the sides. I've worn mine about 3 or 4 days and you tend to try to polk your toes in things and under things and that, and I've about torn the toe off. The whole toe is worn out. So, if they think they want to wear them, they'll probably have to bring some extra ones up.

CC We copy that.

SC Hey, Houston, CDR.

CC Go, CDR.

SC See something was going down the crack here, check something out for me. No - that's not right either. Oh, never mind I found it. Forget it.

CC Okay, Pete.

CC SPT, Houston.

SC Yes, sir.

CC Your H-Alpha 1 camera appears to be still running.

SC Oh, yeah. Okay.

SC Did that do it, Houston?

CC We'll be with you in just a second, Joe.

We're looking.

SC Okay. It looks like we have turn the auto switch off every darkside. I'm going to have to sit down and write a new sunside prep and powerdown cue card.

CC We concur with that, Pete - er, Joe.

SC Okay.

CC Skylab, LOS in 1 minute; Guam, 16:34.

SC Houston, CDR.

CC Go CDR.

SC Okay. During sensitometry advance we had half lights on cameras 3 and 4. And they did advance, in fact,

SL-II MC512/2

Time: 11:19 CDT, 11:16:19 GMT
6/4/73

40 frame counts. But to doublecheck, we took them off, brought the film back, put them back on again and then run the film, in fact, does advance. Put them back on, we only had one (static).

PAO
mean time.

This is Skylab Control; 16:32 Greenwich

END OF TAPE

SL-II MC-513/1
Time: 11:33 CDT
6/4/73

PAO This is Skylab Control; 16:32 Greenwich mean time. A brief gap here between Carnarvon and Guam. Skylab commander, Pete Conrad, describing to the ground some troubleshooting he was going through on some of the S190A multispectral camera film transports. He had two cameras of the array that were not giving him ready lights. And as he went over the hill and he was describing to CAP COM, Bill Thornton, the steps he had taken to correct this malfunction in preparation for the upcoming Earth resources data survey across the Midwest of the United States and on down through the Georgia and South Carolina coast, and Puerto Rico and Virgin Islands. Standing by for Guam.

CC AOS for 10 minutes. And, CDR, we lost you as you were talking over the hill that time.

SC Houston, CDR.

CC Are you calling, Skylab?

SC Roger, Houston. How do you read the CDR?

CC You're loud and clear now, Pete. Go ahead.

SC Okay, C7 is only 28. Do you want me to turn the cooler on or not?

CC Stand by half.

CC Pete, they want you to turn the cooler on.

Turn the cooler on.

SC Roger.

CC Skylab, LOS in 1 minute; Goldstone at 16:59.

PAO This is Skylab Control. Loss of signal from the Guam Island tracking station. Currently, the power usage aboard Skylab space station is standing around 3700 watts, as the crew prepares for the Earth resources data take across the continental United States. Average battery state of charge - 68.9 percent; and the space station just came into daylight, so that number will be going up as the solar array wings on the ATM begin feeding electrical power into the charger battery regulator modules, and building the batteries back up. Thirteen minutes to acquisition at Goldstone and the stateside pass for groundtrack 19 and Earth resources survey pass number 4 in this Skylab II mission. At 16:46 Greenwich mean time; back in 13 minutes, Skylab Control.

END OF TAPE

SL-II MC-514/1

Time: 11:59 CDT, 11:16:59 GMT
6/4/73

PAO This is Skylab Control; 16:59 Greenwich mean time, about a minute away from acquisition through Goldstone. Coming up now on the Earth resources data survey for the day. Beginning up around the Powder River basin in Wyoming and Montana and ending - -

CC Skylab, Houston. AOS for approximately 16 minutes.

SC Roger, Houston. How do you read?

CDR.

CC You're loud and clear, sir.

SC Okay, we're on VOX as EREP operator.

PAO - - and ending around the Virgin Islands in Puerto Rico. Cloud cover ranges about 0.4 to 0.7 cloud cover along most of the track and 0.8 to complete cloud cover in northeastern Missouri and western Tennessee. And 8 to 0.8 to complete in the Puerto Rico area.

PAO Skylab crew in the voice actuated VOX mode on the intercom as they get set up to begin the Earth resources data pass. We should hear them go down through the checklist as they activate each of the experiments and cameras through the entire 12 minutes of this pass.

SC ALTIMETER to STANDBY. I give it to you 01:40. I need an AUTO CAL.

SC 01:30, EREP system START. Stand by for AUTO CAL.

SC MARK. AUTO CAL.

SC We'll be passing my two (garble) in about 30 seconds on the right?

SC Definitely.

SC Yeah.

SC Okay, MARK. S92 mode READY. (Garble) mode, AUTO. (Garble) ON. SCAT's ON.

SC I've had camera 3 malf light, and I get an intermittent RAD/SCAT gimbal light.

SC MARK. 193 polarization 4.

SC MARK. SCAT. Stand by.

SC MARK. RAD. Stand by. Cross track contiguous; X cross track contiguous.

SC MARK. RAD OFF. SCAT OFF.

END OF TAPE

SL-11 MC515/1

Time: 12:08 CDT, 11:17:08 GMT
6/4/73

SC MARK. SCAT, STANDBY. MARK. RAD STANDBY.
In track contiguous. MARK. RAD, ON; SCAT, ON. MARK. S192,
Check. 84 MODE, MANUAL, monitors C1. It's reading 17. And 20,
I'll read it. MARK. 10:20 C1 to read 17. MARK. SCAT, STANDBY,
10:40. MARK. RAD, STANDBY 10:42. ALTIMETER ON; 11:10, C1
reads 91. MARK. 11:55, C1 reads 88. (Garble)

PAO This is Skylab Control. We have con-
formation that the Harvard College Observatory Calibration
Rocket was launched on time at 12:00 noon central daylight
time from White Sands Missile Range.

SC 14:05 C1 went off-scale, 100 percent.
It's coming back on at 99 - 95. S194 to check. Our mode,
MANUAL - excuse me 14:50, we're standing by for altimeter
standby.

SC Go over anyhow, Paul. And an intermittent
blinking malf light on 194. 192 mode, READY; ALTIMETER is
ON; and, Joe, you're standing by 16:30 to go FI.

SC How would I get a blinking tape motion
light? Yeah. It don't - no - yes, sorry. Yeah, I got a
blinking tape motion light. In high speed, 192 is running.
The interval is about oh, 3 or 4 seconds, off. On for
about (garble) 20.

CC Skylab, Houston; LOS in 1 minute.
Carnarvon at 17:58.

SC Okay.

SC 192 mode, STANDBY. 16:36, S190, ready
light's out Altimeter to STANDBY, AUTO CAL. I got it.
93 Red, OFF; SCAT OFF; 193A, OFF; 194, OFF.

PAO This is Skylab Control; loss of signal
as the crew of Skylab completed today's Earth Resources
Experiment Package S, over the Continental United States,
portions of the Western Atlantic, along the Sea Board and
over Puerto Rico and Virgin Islands. Skylab space station
starting revolution 304. Next station in 40 minutes
Carnarvon, Australia. At 17:18 Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-II MC-516/1

Time: 12:58 CDT, 11:17:58 GMT
6/4/73

PAO This is Skylab Control; 17:58 Greenwich mean time. Less than a minute now away from acquisition at the Carnarvon, Australia tracking station. We understand that although the calibration rocket of the Harvard College Observatory was launched on time, that for some reason it failed to fulfill its mission and as we understand it, was destroyed by the range safety officer at Whitesands. We have no further details at this time. The CAP COM will relay this up to the crew very shortly.

SC Hello, Houston.
CC SPT, Houston.
SC Go ahead.
CC They lost the cal rock, and so you need to go to the no cal rock pads; that's 11:29, the beginning time on that.

SC Okay, I've got it. I'm sorry.
CC Okay, and they'll hold for the next four passes. There were problems - -

SC Roger.
CC - - There apparently were steering problems in the rocket. It was destroyed.

SC Okay, Bill.
CC By the way, the ATM data has looked very good today.

SC Good.
CC Skylab, that was not just for today. It's a quick look at SO55/52 XUV monitor; says they're all obtaining first rate solar data and will make a significant improvement on solar physics.

SC Good deal. We'll do the best we can from here on out.

SC Okay. Now get to your message. What are you leading up to?

CC They say they like what you're doing. Just keep it up. You couldn't possibly be getting a little paranoid after this morning's procedure, could you?

SC You're not talking about that fourth guy that wanders in out of the 191 alignment box, are you?

CC What do you call him, Pete?

SC The other two guys are convinced I'm off my trolley. They say I even like the bicycle now.

CC Sounds dangerous. By the way, Paul, and anyone else who was involved in that 192 this morning, the work was greatly appreciated here and also at - from a first look, it appears to have been worth the effort.

SC Okay. Well, I must say, I was - as you probably guessed, I was convinced we weren't going to make any money, but we sure did.

SL-II MC-516/2

Time: 12:58 CDT, 11:17:58 GMT

6/4/73

SC Also, Bill tell the EREP guys that on the - right after the A record - B record, there's a very important message for them.

CC Copy.

SC It's my way of saying I screwed up, and I'm embarrassed to tell you over the open loop.

CC Copy.

SC Hey, also, time to put another message on B channel for them to base - to the EREP pads for us that'll preclude any more happenings such as what happened, and - Because this checklist is just about unusable up here. It's got lines through it. It's got latest updates crossed out for the latest updates, and we are going to give up on the checklist. Paul and I are going to sit down and write a card in about an hour, and we'll make some recommendations through some things on the - on the pads that are good last minute checks to make sure that we've got everything done. Okay?

CC We copy, Pete. Bruce says there are some blank cue cards in the data file.

SC Yes, we've already dug them out.

CC Apropos your statement about Pete liking the bicycle more. Are all of you finding any increased interest in the bicycle?

SC That's a negative.

CC (Laughter) Copy.

SC I'm going to race old Paul. Six weeks after he's back, they'll call him butterball again.

CC Copy. We'll be LOS in a minute. We'll have you again at Guam at 18:13.

PAO This is Skylab Control; 18:07 Greenwich mean time. Loss of signal for the final Carnarvon tracking station pass of the afternoon. Coming up on Guam also for the final pass this afternoon over that station. Skylab space station now over the Republic of Indonesia. It'll cross over the Philippine Island chain as it sweeps northeastward on the latter part of revolution number 304. We'll stay up live for this gap of 4-1/2 minutes between Carnarvon and Guam. At 18:08, standing by; Skylab Control.

END OF TAPE

SL-II MC-517/1

Time: 13:11 CDT, 11:18:11 GMT
6/4/73

CC

Skylab, Houston; AOS for 5 minutes.

SC

Roger.

CC

We're going LOS. We'll see you at Goldstone

at 18:36.

SC

Roger, Houston. Good bye.

PAO

This is Skylab Control; 18:20 Greenwich mean time. Loss of signal for the final pass over the Guam Island station of this afternoon. Acquisition at Goldstone for a stateside pass; one of two remaining this afternoon before the orbit moves out into the Pacific on the descending node; 15 minutes to Goldstone. At 18:21 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-518/1

Time: 13:34 CDT, 11:18:34 GMT
6/4/73

PAO This is Skylab Control; 18:35 Greenwich mean time. Some 50 seconds away from acquisition at Goldstone for the final pass of the afternoon in which the Skylab space station is directly over the continental United States. The succeeding revolution will be tracked by Texas and Goldstone, but it will pass somewhat offshore in the Pacific Ocean on the descending track going to the southeast. We have acquisition through Goldstone of Skylab. We'll stand by for resumption of air-to-ground communications. The crew, at this time, are in the midst of a meal period, noon meal, and may not have a whole lot to say. Skylab Control standing - -

CC AOS for approximately 20 minutes.
SC Roger, Houston.
CC And, PLT. We have a message for you.
SC Go ahead.

CC The ergometer restraints raised some questions this morning among the biomedical people. And they would like, this afternoon, for you to run the PLT's M093 with ESS, that's panel 623, EXPERIMENT ACTIVATE switch in the M171 position.

SC Okay. You want the regular M093 protocol and checklist, but just run the ESS in 171?

CC They also want the blood pressure cuff left on through M093 and place the CUFF INFLATE switch to START at the beginning of the 93 run and leave it there. Use the - your method of restraint, the one that you found optimum. They're looking at the affects on the VCG and BPMS data.

SC Well, I figured that. I haven't tried this no restraint bit, as yet, but I'll try it this afternoon.

CC We copy, Paul. Don't hurt yourself.
SC I'll try not to. All right, you want the full 93 protocol and checklist; just put the ESS in the 171.

CC That's right. And leave the blood pressure cuff on during that time, and have the switch activated for it.

SC Okay.
SC Houston, CDR.

CC Go, CDR.
SC Housekeeping 7 Bravo - 7 Bravo-3,
7 Bravo-4. Yuk! Complete.

CC We copy. Complete. (Laughter)
SC Pete, there was guessing down here the last time you had to pull that duty.

SC On my day off.
SC Skylab, Houston; CDR.

CC We're still here. Go ahead.

SC Okay. Standing by for your EGIL stuff.

SL-II MC-518/2

Time: 13:34 CDT, 11:18:35 GMT

6/4/73

CC We're standing by.
SC Okay. I'll grab it.
SC Hey, Houston. Ah (garble) OWS here is
CONTROL 2 CB, CLOSED, and it's staying CLOSED.
CC We copy. Closed and staying closed.
SC Now, I noticed right next to it they
had OWS radiant heaters 1 through 5 CB as OPEN. Did you know
that?
CC We'll check, Pete.
CC They're aware of it, Pete. That's okay.
CC SPT, Houston.
SC Go ahead.
CC It appears that you're in ACTIVE REGION,
18. They'd like this pass run in QUIET REGION, 3.
SC Stand by.
SC Okay. Tell them I'll move. I initially
went to the (garble) they asked for, and in looking for good
cells, I moved back down across Sun center.
CC We copy. No problem.
SC Houston, CDR. The (garble) bottle res
decay PORTION has been activated and we now have the 4 BOTTLE
VALVE is OPEN, and the 2 BOTTLE VALVE is open.
CC Copy.
CC Pete, we're ready for you on your pad.
On panel 200 the MDA OWS HEATERS CONTROL 2, circuit breaker,
OPEN. We're ready for you to perform that.
SC Okay. It's open.
CC And we're going LOS here in about
1 minute. We'll have you Vanguard at 19:02.
SC Okay.

END OF TAPE

SL-II MC-520/1

Time: 14:00 CDT, 11:19:00 GMT
6/4/73

PAO This is Skylab Control; 19:00 Greenwich
mean time. About a minute and half away from acquisition at
the tracking ship Vanguard. As the Skylab space station is
now crossing into the northern portion of Argentina into central
South America continent. Flight Director, Don Puddy, at the
present time viewing the - one of the initial cuts at tomor-
row's Flight Plan, which includes Earth Resources Experiment
Package number 5, survey track, survey along track number 34D.
Apparently we have acquisition through Vanguard. We'll stand
by to monitor the conversation through this station.

CC Skylab, Houston. AOS for 9 minutes.

SC Houston, CDR.

CC Go, CDR.

SC I'm about ready to go ahead with EIGL-4

CC Copy. We're standing by.

SC Okay, Houston. The OWS block 2 breakers

stayed closed.

CC We copy that, and ground agrees.

SC Okay. That was from panel 613.

CC SPT. Houston.

SC Go ahead.

CC We'd like for you to inhibit TACS per pro-
cedure, at your convenience.

SC Aye aye.

SC Okay, Houston; bus - C&W bus 1, low volt,
said TV closed and stayed closed - gone ahead and closed 2.

CC Copy.

SC Okay, it stayed closed, also. Going to 16:14

for the H. Make it H2O, not HSP bus 2, waste management H2O -
no, heater's to right. H2O - heater closed, then opened.

CC Copy.

END OF TAPE

SL-II MC521/1

Time: 14:06 CDT, 11:19:06 GMT

6/4/70

SC Okay, we closed it, Houston. And it stayed closed, and nothing happened to C&W bus 1 low volts or C&W bus 2 low volts. They both stayed closed also. And 614 HSS bus 2 waste management compartment, H2O heater closed, is now open.

CC We copy that.

SC And while EGIL is looking at that Houston, I'd like you to verify the configuration that I left the circuit breaker panel in the command module in, panel 226. Are you ready to copy?

CC We're standing by. Go ahead.

SC Okay, the cryo H2 heater, 1 MAIN A, 2 MAIN B. Circuit breakers, both of them are closed. The H2 heaters, 100 watt, 1 MAIN A, 2 MAIN B. Both are closed. H2O heater 50 watt, 1 MAIN B, 2 MAIN A, are both open. I mean O2 heater 50 watt.

CC That's the desired configuration, Pete.

SC Okay, very good.

SC I just wanted to make sure because it said H2 heater 1 MAIN A closed, and that one was already closed. The rest of them were in the right configuration.

CC Copy.

SC And I'm standing by for your GO on panel 207.

CC You're GO on that, Pete.

SC Okay.

SC Okay, Houston. They're both in ENABLE and that took care of the light.

CC We copy, Pete.

CC We're going LOS here about 1 minute.

CC We'll have you again at Vanguard at 21:48.

SC 21:48, huh? Bye bye for a while.

CC Belay that.

PAO This is Skylab Control; 19:11 Greenwich mean time. Our next station acquisition is Goldstone in 1 hour and 2 minutes. The CAP COM looked at the wrong table apparently and gave the next Vanguard pass as being the next point of contact for the crew. But by the time he got it sorted all out, why - he - the space station had gone over the hill from Vanguard. Hence the comment from Conrad, bye bye for quite some time. One hour and 1 minute to Goldstone. At 19:12 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II NC-522/1

Time: 15:12 CDT, 11:20:12 GMT

6/4/73

PAO This is Skylab Control; Greenwich mean time, 20:12. Skylab space station is presently about to enter the acquisition of the Goldstone tracking station for lengthy stateside pass of approximately 12 minutes. Following the EREP pass on the last revolution, on revolution 304, the EGIL reported to Flight Director, Don Puddy, that we had 16 completes, 16 completes meaning that the 16 CBRMs, charger battery regulator modules, did come back on line at the return to solar inertial - solar inertial attitude following the EREP pass. We will hold the line up now for any conversation between the Cap Com, Dr. Bill Thornton, and the Skylab crew.

CC Skylab, Houston. AOS for 7 minutes.
CC Skylab, Houston. AGS 7 minutes.
SC Houston, CDR.
CC Go, CDR.
SC When you get somebody in the LBWF,
can you ride the bike, in the bike, in the exercise mode?
CC Stand by half.
SC Say again.
CC That's affirm.
SC Okay.
CC Skylab, we're - Goldstone is configured
to receive XUV monitor TV for the next 7 minutes.

END OF TAPE

SL-II MC-523/1

Time: 15:17 CDT, 11:20:17 GMT

6/4/73

CC SPT, Houston. We notice you're still in the portable TV position. You have about 2-1/2 more minutes coverage.

SC (Garble)

SC Give me a 635.

CC Skylab, we're going to LOS in 1 minute; Vanguard at 20:40.

PAO This is Skylab Control; Greenwich mean time 25 hours 59 minutes. The recent pass over Goldstone and Texas brought very little conversation from the Skylab crew. However, Commander Conrad did ask the ground, Dr. Bill Thornton, the Cap Com, requested whether you could ride the bicycle ergometer when someone is in the lower body negative pressure device. The ground said that's affirmative. What Commander Conrad was referring to, the fact that Pilot Paul Weitz was in the lower body negative pressure device, experiment M092, which is designed to establish the course of cardiovascular deconditioning changes caused by the zero g environment. The LBNP is used to stimulate the effect of gravity in space. The device is a cylindrical tank with a waist seal, which encloses the crewman's legs and lower body and simulates the presence of gravity on the circulatory system by applying a slight suction to the lower body. As Pilot Weitz is in the M092 experiment, this will be followed by the M093, the vectorcardiogram experiment. Meanwhile, Science Pilot, Joseph Kerwin, is at the ATM C&D panel, the control and display panel of the Apollo telescope mount. As the spacecraft nears the end of its 305th revolution, we will have acquisition at Vanguard in 12 minutes. This is Skylab Control at 20 hours 27 minutes.

END OF TAPE

SL-II MC-524/1

Time: 15:39 CDT 11:20:39 GMT
6/4/73

PAO This is Skylab Control, Greenwich mean time 20 hours 38 minutes. We anticipate acquisition of the Skylab space station as it crosses into the sphere of the Vanguard tracking station. We will hold the line up for any conversation between Capcom Dr. William Thornton and the Skylab crew.

CC Skylab Houston. AOS for 8 minutes.

CDR Roger Houston.

CDR We're watching the biomed data and we've got Paul just about ready to start his run (garble) 93.

CC We're watching it Pete.

PLT Houston, are you there?

CC We're still here, go ahead.

SPT This is SPT. We're back on the primary fine Sun sensor.

CC Copy SPT.

SPT Just drove the thing straight up, about a - a half a radius up to (garble) she turned around and started coming back in.

CC Copy. And Skylab we will be LOS in about a minute. We will see you in Hawaii at 21:48 yet. And a couple of questions. Did you have any problems cleaning the solenoid vent screens? Also the tape recorder will be dumped over Hawaii on the next pass.

CDR Answer is negative.

CC Copy.

PAO This is Skylab Control. Greenwich mean time 20 hours 49 minutes. On the recent pass over the Vanguard tracking station, Commander Conrad reported that Pilot Paul Weitz was ready to start the M095 experiment, the vectorcardiogram experiment. This experiment is performed on each of the astronauts every 3 days during the mission. The experiment consists of the astronaut riding the bicycle-ergometer, and he is set up with a set of 8 electrodes, which are attached to his - his body. And this records the heart rate, temperature, etc. during the bicycle-ergometer run. Next acquisition is over the Hawaii tracking station in 58 minutes from now. As the space station starts its 200th, 300th, excuse me, 307th revolution of the Earth, this is Skylab Control, Greenwich mean time 20 hours 50 minutes.

END OF TAPE

SL-II MC-525/1

Time: 16:11 CDT, 11:21:11 GMT
6/4/73

PAO This is Skylab Control, Greenwich mean time 21 minutes - pardon me. Greenwich mean time 21 hours 11 minutes. It has been announced by Dr. William C. Schneider, Director of the Skylab Program, NASA Headquarters that an EVA will be scheduled no earlier than Thursday, June 7th for the purpose of deploying the solar panels. The statement following Mr. Schneider's review of the subject at Marshall Space Flight Center follows: A comprehensive review was held today at the Marshall Space Flight Center to examine the possibility of an EVA to deploy the stuck solar array on the Skylab workshop. In addition to the senior Skylab officials and technical personnel, the following were present: Deputy Administrator, Dr. George Lowe, Dale Myers, Center Directors Dr. Kurt Debus, Dr. Christopher Kraft and Dr. Rocco Petrone. The current and projective status of electrical power situation was reviewed as well as its effect on the conduct of the mission. It was shown that without electrical power augmentation, the experimentation on current Skylab mission would continue to be curtailed and constrained, and that for the next two missions, the 56-day duration probably would not be possible. The proposed EVA procedures were explained and described by Astronaut Russell Schweickart, who had helped develop the techniques in the Marshall Space Flight Center Neutral Buoyancy Facility. They were demonstrated to be feasible and relatively straightforward and no unusual safety hazard was found. Energy sources, dynamics and possible debris hazards were analyzed. It was concluded that the planned EVA was comparable to the normal Skylab EVA and that the potential gain outweighed the risks involved. Therefore an EVA has been scheduled for no earlier than Thursday, June 7th for the purpose of deploying the stuck solar panels. Details will be developed in the next few days. Dr. William C. Schneider will be available for a press conference in the news room in building 1 at the Johnson Space Center no earlier than 7:00 p.m. central daylight time. This concludes the announcement from Mission Control Center. Next AOS will be over Hawaii in 34 minutes.

END OF TAPE

SL-11 MC-526/1

Time: 16:46 CDT, 11:21:46 GMT
6/4/73

PAO This is Skylab Control, Greenwich mean time
21 hours 46 minutes with live air-to-ground over Hawaii.

PLT Okay, for whatever it's worth, after we
finished the MO-93 and our new free form style of riding the
bicycle, I rode my standard preflight protocol at the end of
the second step, that is after 10 minutes, my heart rate was
130. At the end of the third step, after 15 minutes, my heart
rate was 153.

CC

We copy that Paul, thank you.

CC

Paul, while we're on that subject, the
biomeds here want you to go in the unrestrained mode in the
future on 171, that's all crewmen.

PLT I really think - today's the first day I
tried it out, Bill and during the 93 part, I was really
you know, trying different positions, so I probably got my
heart rate up a little higher. I don't even know what I've
been running on that, but suprisingly it's a revelation. It
really is to me, this being my first time, that it's so much
easier than strapping yourself down. You're fighting the
straps as much as you're working the bicycle I think with all
those - that paraphernalia you've got on.

CC

Okay, we copy, Paul. Was there anything
in particular about the straps that were giving you trouble?

PLT

Well, I'd say yes. In forcing myself down
on the seat, I felt that I really had to pull down on that
front restraint, the one that's got the parachute cone on it,
and in so doing that the bottom edge of that weight belt dug
into my leg just about the femoral artery there and I felt
that it was interfering with good circulation to the leg.
Plus the shoulder straps down tight interferes with respiration.

CC

Copy, Paul. Thank you.

CDR

Hey, Houston. I got a mystery for you.

CC

Go ahead, CDR.

CDR

I was just cruising through the middle of
the OWS and I came across a DAC, that's a Delta Alfa Charlie
fuse floating and so I just got a search throughout the vehicle -
all four cameras that are out, rest of the cameras that are
stowed and the DAC fuse supply and they're all accounted for.
So, my question is, and it may have been reported, it maybe
not rreported, I think somebody must have dropped one in
the vehicle during tests and it's just finally made its way
out. At least I hope so, or we've got a pregnant DAC fuse
around here that's not fessing up.

CC

Hey, Pete is that the only loose item you
found?

CDR

Well we've found lot's of loose items, but
this is the only one I can't account for where it came from.

SL-11 MC-526/2

Time: 16:46 CDT, 11:21:46 GMT

6/4/73

CC We copy. Hey, Pete we're changing - the blood drawing has been changed from 156 to 157. Now, we have a stowage message ready if you want it, but if you like, you just go ahead and handle the stowage yourself. If you need the message give us a call.

CDR Stowage message for blood drawing?

CC This is for stowage of the blood in the urine sample return container.

CDR No, we're in good shape on that. We don't need it.

CC Pete, are there any specific Nikon problems?

CDR The counter failed to work on the Nikon - wait a minute, I got it right here.

CC SPT, Houston.

SPT Go ahead.

CC We're configured at Hawaii for XUV TV monitoring.

SPT Hawaii. Is that where we are now?

CC That's affirm.

SPT Okay.

CDR The Nikon O-1, the upper film counter failed at 22 on the last roll of film and so far it's working on the new roll of film, but we're only up to five pictures on it. By the way, that is 21-34 - well you'll get it on the film report tonight and we're using it out the window and 160

CC We copy, Pete.

CDR But that's the only Nikon problem I know of. We had the base problems but that was very briefly on the Hasselblad.

CC Yes, we copied that - -

CDR It was recycling and it -

CDR Go ahead.

CC We copied the Hasselblad copy. We copied a Hasselblad problem earlier.

CDR Roger, now we've got a new magazine on there and again it's started to count over again and we'll see what happens.

CC We copy, Pete.

CC Skylab, Houston, LOS in one minute. We'll see you at Vanguard 22:16 and SPT if you would close the 50-52 door at the end of your ATM activities since you're a bit off Sun center.

SPT All right.

PAO This is Skylab Control, Greenwich mean time 21 hours 55 minutes. In the present pass over Hawaii Pilot Paul Weitz discussed with Cap Com Dr. William Thornton how much easier it is to ride the bicycle ergometer without using the restraint straps provided. He said it's suprisingly

SL-II MC-526/3

Time: 16:46 CDT, 11:21:46 GMT

6/4/73

easier to ride without having the straps on. Heretofore the straps were used and the crew had complained in the difficulty in riding the bicycle ergometer. Commander Conrad reported a slight mystery to the ground. He found a DAC fuse, data acquisition camera fuse floating in the workshop. He says - he said it probably was dropped during fabrication and it's just turned up. This is Skylab Control at 21 hours 56 minutes Greenwich mean time. Our next acquisition will be over the Vanguard tracking station in 20 minutes.

END OF TAPE

SL-II MC-527/1

Time: 17:13 CDT 11:22:13 GMT

6/4/73

PAO This is Skylab Control. Greenwich mean time 22 hours 13 minutes. As the Skylab space station approaches the Vanguard tracking station. The crew has approximately 4 hours and 45 minutes remaining in their 11th day in the Skylab space station, with dinner and 2 more hours worth of work at the Apollo Telescope Mount control and display panel. We will pick up any live air to ground at this time.

CC Skylab Houston. AOS for 10 minutes.

PLT (garble) Houston.

CC And we will be dumping a tape recorder over Hawaii on this upcoming pass.

CC CDR Houston.

CDP Go ahead.

CC At your convenience, we'd like the MOL SIEVE B FAN ON.

CDR Okay. It's ON.

CC Copy.

CC Skylab Houston, AOS in 1 minute.

Correction, LOS in 1 minute. Hawaii at 23:23.

SPT Roger dodger, Houston.

PAO This is Skylab Control. Greenwich mean time 22 hours 26 minutes. We have had loss of signal of the Skylab space station as it passed over the Vanguard tracking station. The only conversation between Capcom Dr. Bill Thornton and the crew was concerning asking the crew to turn on the MOL SIEVE FAN B. The MOL SIEVES are devices located in the airlock module, which removes carbon dioxide and water from the Skylab atmosphere. Next acquisition will be over Hawaii in 56 minutes. This is Skylab Control, Greenwich mean time 22 hours 27 minutes.

END OF TAPE

SL-II MC-528/1

Time: 18:21 CDT 11:23:21 GMT

6/4/73

PAO This is Skylab Control, Greenwich mean time 23 hours 21 minutes, as the Skylab space station approaches the Hawaii tracking station on its 307th revolution. We'll hold the line up for air to ground conversation with Capcom Hank Hartsfield.

CC Skylab Houston, through Hawaii for 10-1/2 minutes.

CDR Henry, you old rascal. How was the week?

CC Hello there. How's it been?

CDR We missed you.

CDR Hey Henry, I've got a question for you.

CC Go ahead.

CDR Are we going EVA?

CC Well, I've got a little word for you too. They had a big old meeting here today, and the outcome was that we're going to do one, and it will come no earlier than Thursday.

CDR Okay that's good. We've got a proposal for you for that then. We've been having a great deal of discussion up here about our work load. And the work load that you have us at right now is an extremely satisfactory one. And as a matter of fact, it's quite relaxed and it is what we like. It's what we would recommend for the 56 day mission. And it is I think on our flight essential enough to get data done and some of these experiments done, and seeing we're going to lose another day going EVA, we would like to propose that you continue our work schedule as is on our 2 days off. In that we don't want the days off now, we have enough time to ourselves in the evening that we can relax. We're managing to stay on top of everything and occasionally get ahead. And so we would like to run EREP on those days off and ATM or however the schedule works or any other things that you have. Just run this particular type work load you've got us on now right on through the end of the mission. How does that go?

CC Okay guys, we'll feed that in the hopper and see how it comes out.

CDR Okay, I want ya'll to understand that I'm not proposing this in the manner that it applies to the 56 day flight. I think the time line that we're on right now is great for 56 days, but you have got to give those guys a day off every once in a while. Now we've had 1 day off. We've been on this light, relatively light load

SL-11 MC-578/2

Time: 18:21 CDT 11:23:21 GMT

6/4/73

that we can stay ahead of problems and everything. And we think breaking the monotony with an extra EVA is good for us. We would like to give our remaining 2 days off to the experiments.

CC I know they're rooting for you there.
We'll feed that in and get you an answer back Pete.

CDR Very good, thank you.

CC And for info, on this pass we're going to be bringing up secondary coolant loop, and primary coolant loop, and you'll probably get a caution and warning. And also we'll be bringing the third gyro on each axis for redundancy management so we can mark the drift.

CDR Good.

CC And Pete, for info, Rusty is going to be in at about 02:30 over Guam for a little chat about the EVA.

CDR Good.

CDR We got it.

CC Roger.

END OF TAPE

SL-11 MC-529/1

Time: 18:28 CDT, 11:23:28 GMT
6/4/73

CC Skylab, Houston. We're about 40 seconds from LOS. We'll be coming up on Vanguard at 55 and it looks like MO-92 vent shoved us out of plane again and in all likelihood the star tracker will not acquire again and we'll be wanting you to bring it up.

SPT

Okay.

PAC

This is Skylab Control, Greenwich mean time 23 hours 33 minutes. As the spacecraft passed over the Hawaii tracking station Commander Conrad asked Capcom Hank Hartsfield - Astronaut Hank Hartsfield is a member of the Skylab support team - He asked them whether or not the crew would be going EVA. Hartsfield replied yes, there was a plan to go on Thursday. Conrad also relayed to the ground the good work schedule that they've been working under for the last several days and he proposed that, since they will have an EVA, he proposed that the crew forego their two scheduled days off for the remainder of the mission to play catch-up, do some EREP and some other experiments. Hartsfield replied by saying, "we will feed it into the hopper." Astronaut Hartsfield also advised the crew that Astronaut Rusty Schweickart, who is backup Skylab Commander for Skylab 2, that he will talk to the crew in approximately two hours on a pass over Guam on the 309th revolution. At Greenwich mean time 23 hours 35 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-530/1

Time: 18:52 CDT, 11:23:52 GMT
6/4/73

PAC This is Skylab Control, Greenwich mean time 23 hours 52 minutes as the Skylab space station approaches the Vanguard tracking station. We expect to have conversation with Cap Com Hank Hartsfield and the crew as the crew begins their pre-sleep activities. With Science Pilot Joseph Kerwin scheduled to spend another hour on the control and display panel of the Apollo telescope mount and Pilot Paul Weitz scheduled to spend another 55 hours - 55 minutes on the C&D panel later this evening. We'll leave the line up for any air-to-ground with the crew.

CC Skylab, Houston through Vanguard for 7-1/2 minutes.

PLT Rog, Houston. We'll be with you in a minute.

CC Okay. For the SPT, we're taking a look at this new Z thing and we decided that it'd probably be better not to chase it, so don't bring in the star tracker and we'll let the momentum settle out and let Paul do it when he goes up for his shift.

SPT Okay.

CDR Hey, Hank are you there?

CC Go ahead.

CDR Okay, the answer to your questions. Number one due to the increase in cabin air O2 percent during M-171 protocol, request you verify make-up O2 N2 as being inhibited during M-171 run and that is a fact. We've been turning off the cabin reg everytime.

CC Roger, copy.

CDR Okay, advise that the monitor was receiving power and yes the brightness and contrast were turned up during the TV camera problem. The camera was operating perfectly normally was being set up - when I say being set up, its location was being determined at the time and it was running showing a good picture and it just quit running. Now, the monitor that was on that camera has been tested on a good camera and the monitor is fine, the cables are fine, there are no bent pins, it just doesn't run. How did I determine the color wheel was not turning when the power was on? I took the lens off and looked in there, and secondly you can also hear it. (garble) jam in the bad camera is power connectors for bent pins or pushed-back pins and there are none.

CDR And the answer to question number six was yes, the contamination flowed over the OWS what that does is drag down the ice crystal in it.

SPT (Garble) okay and we'll catch up on some of the other questions.

SPT I'm trying to find my place.

SL-II MC-530/2

Time: 18:52 CMT, 11:23:52 GMT
6/4/73

SPT Okay. Are you able to use the XUV monitor? To determine roll, yes, by integrating, not exactly the way we were in training but we are using it that way. To locate bright spots, no. Because we can't point to one and you know, go there continuously integrating and the basic picture is much too faint. So, coronal holds same thing, you really can't see them and a flare, we decided that to use the XUV nine as a flare detection tool, the flare has to be bright enough to show without requiring integration. Since we haven't had any flares we don't know whether that's true yet or not, we hope it is. Okay, question number eight. What is locks like looking in H-alpha-1 as we come around the terminator is that first of all the image of the Sun moves up and to the left about one solar radius or maybe a little more and then it kind of flashes and goes out as you disappear behind the darkside.

CC We copy.

SPT And that's all I've got.

PLT Okay, and number nine, Henry was they want to know the estimate for rolling it around by hand to make sure it doesn't have too much set also. Well you probably don't know that either. I would say - I would estimate that amount was ten frames plus the 40 frames for sensitometry advanced plus one frame to make sure that in fact it was (garble) film plus four frames normal, whatever that adds up to.

CC Roger, copy.

PLT Number 10, negative.

SPT Houston, SPT.

CC Go ahead.

SPT We'd like you to verify the number of pills you can just read the five digit numbers if SAO can find them for somebody - mineral supplements that we were supposed to take this morning, we'd like to verify that we had it right.

CC Okay, we're about 10 seconds from LOS. We'll have that for you at the next pass which will be over Vanguard again about an hour and a half at 01:33.

SPT Okay.

PAO This is Skylab Control, Greenwich mean time 00:03 minutes. On the previous pass over the Vanguard tracking station, Commander Conrad discussed with Hank Hartsfield Cap Com the difficulties they had earlier with the TV camera. The next pass will be over the Vanguard station in one hour and 42 minutes - no one hour and 29 minutes - excuse that - one hour and 29 minutes from now. Change-of-shift briefing with Flight Director Don Puddy is scheduled to start in the news room in building 1 momentarily. This is Skylab Control at Greenwich mean time 00:03 minutes.

END OF TAPE

SL-11 MC-531/1
Time: 19:07 CDT 12:00:07 GMT
6/4/73

PAO This is Skylab Control. Greenwich
mean time 00:07 minutes. William C. Schneider, Skylab Pro-
gram Director, Flight Director Don Puddy, and Dr. John
Zeiglschmid, Skylab Flight Surgeon will begin a press con-
ference in the Building 1 News Room immediately.

END OF TAPE

SL-II MC-533/1

Time: 20:37 CDT 12:01:37 GMT
6/4/73

CDR 19:45 to 20:00 or whenever he starts his TV19 set up. Make that PHPT and down at the bottom 22 to 23 50 make that the M171 CAL completely. I also believe you left a piece out of mine, that 2145 I think you have an S019 clean up for me, I found it buried in the details. I assume that is correct. If not we can straighten it out on tomorrow's flight plan. And that's about it.

CDR Now, I've got one other thing. One small bit on the EREP tape TV 12, it happens to be tape recorder 2. So, instead of the TV12 book, fortunately we looked at it tonight and we have taken our own set up into consideration to give you tape 2. And I passed that little bit on, the guys on the ground should have recognized that one and given us a little more time, because the set up with the work. Fortunately we found it tonight.

CDR And then the other thing is, are you still there?

CC Roger.

CDR The SPT says he doesn't want to be working ATM while he's listening to the EVA review tomorrow night.

CC That seems reasonable.

CDR Yeah.

CC CDR Houston, the film for the M151 will be A3 transporter 04.

CDR Okay, A3 04. Do you want the 30 percent, okay, I see it calls for 29 percent but I doubt very seriously if we'll take that much, we don't do that much food prep these days.

CC Roger and I have - -

CDR Will do.

CC I have the mineral supplements that Joe requested a while ago.

SPT Okay, fire away.

CC Okay. CDR is all balls. SPT is 10,000. And PLT is three balls 20.

SPT Okay.

CC I have a general question. Is the ice spot on the wardroom window still the same size, about the size of a dime?

CDR Yes, a little bit bigger than a dime, about the size of a nickel.

CC Roger, does it seem to be growing?

CDR Well, we got into a discussion about that and they have grown a little bit from its original state, but I think it is pretty stable.

SL-II MC-533/2

Time: 20:37 CDT 12:01:37 GMT
6/4/73

CC And one more item for you. When Rusty talks to you tonight at 02:30, he would like for you to have the (garble) cue card available so he can reference locations on the workshop.

CDR Okay. We're going to have to look for that one. We think we can find it.

SPT Houston SPT.

CC Go ahead.

JPT The PLT says he's got an ATM pass coming up but the no cal rock his ATM schedule didn't have a 01:55 pass. So we don't have a pad.

CC That's the same cal rocker (garble) so go ahead and do the one it calls for there. And we're about 25 seconds from LOS. Ascension will be coming up at 46 and I think you have got your med conference there.

SPT Okay, we will if I can find it.

CC That's the 02:09 pass.

PAO This is Skylab Control. Greenwich mean time 1 hour 43 minutes. As the Skylab space station passes over Vanguard, the next pass will be over Ascension. In the Mission Control Center tonight is Donald K. Slayton, Director of Flight Crew Operations and Rusty Schweickart, backup Commander for Skylab II. Astronaut Schweickart is scheduled to talk to the crew and discuss the preliminary plans for the EVA, which is now set no earlier than Thursday. This discussion will come over the Guam tracking station in 46 minutes from now and that will be a 9 minute pass. We will leave the line up for any possible discussions over the Ascension tracking station.

END OF TAPE

SL-II MG-534/1
Time: 20:44 CDT 12:01:44 GMT
6/4/73

PAO The Skylab space station has gone over the hill. We've had loss of signal at the Ascension station. Skylab is on rev 309 at the present time, crossing Nigeria on the continent of Africa. We expect to hear from the crew again at the Guam tracking station in approximately half an hour, and at that time, there will be some instructions passed up to them in connection with the upcoming EVA. At 1 hour 59 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-535/1

Time: 21:27 CDT, 12:02:27 GMT

6/4/73

PAO This is Skylab Control, Greenwich mean time two hours 27 minutes. We will have acquisition of the Guam tracking station momentarily, as we await discussions with Rusty Schweickart, backup Commander for Skylab 2 mission, who will discuss with the crew the procedures that he has developed in the neutral buoyancy facility at the Marshall Space Flight Center on the activities to free the solar wing on the orbital workshop. We will hold the line up for any live conversation.

CC

Skylab, Houston through Guam 9-1/2 minutes.

SC

Hi, Houston.

CC

Okay, I got a few quickies before Rusty talks with you. We concur with swapping the N-171 cal with the PT and PH for the SPT, but let's caution you on your PT, no running around the ring lockers or disturbing the vehicle while SO-19 is in progress. And on the SPT pad, his detail pad, then if he wants to he can change the - where it - M-171 MA cal to 22:00 and we're going to give him a little more time on the ATM. Instead of starting at 01:05 on his last pass there, we'll start that at 01:37 and that'll be on the ATM pad when it comes up.

SC

Okay.

CC

Okay, since the TV-12 is set up to do tape recorder-1 and the light is not proper for tape recorder 2, scrub TV-12.

CDK No way Hank, it's just the other way around. It was for TV for tape-1 and it's all set up to do tape-2.

CC

Okay, while that one's being discussed I got your pass times for in the morning. We have Honey-suckle from 10:52 to 54 and the next pass is Goldstone 11:20 to 11:30.

CDR

Okay, we'll wake ourselves up.

SPT

Skylab, SPT.

CC

Go ahead.

SPT
at 02:10.

I left a message for Dr. Ross on B channel

CC

Roger, copy.

CDR

Also, Hank. I understand that they're not getting the evening status report that's on B channel. Can you confirm that? If that is the case, then I've wasted every evening putting it on B channel, I'd just as soon give it to you over the air on A channel with the rest of the evening status report.

CC

We'll check that one out, and Pete I understand that you're all set up to do TV-12 on tape recorder-2 change-out?

SL-II MC-535/2

Time: 21:27 CDT, 12:02:27 GMT
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CDK That's right. That's right, it was the
- book is for tape recorder-1 and we set it up for 2 because
2 was the one will be changed out.

CC Okay, we'll just press ahead as planned
then.

CDR Yeah. I was just saying that it's a good
thing we went up early because we discovered, you know, one
that we had different tape recorders to change out, that was
number one, and that we had the time to set it up tonight.

CC Okay, we have 6-1/2 minutes left and Rusty
wants to speak with you a bit.

SPT Okay, Hank the only thing on that TV is
I'd like at least to go ahead and start a little early if
I get a chance. I'll make sure to be done with it before
my ATM pass.

CC Roger.

MCC Hello, there.

CDR Go.

MCC It's EVA arm wave tonight. What I'd like to
do is give you kind of an introduction of what we're got
coming up in the next few days, and get your comments on it.
And what we'd like to do is let you know the sequence of
events. Tonight on the teleprinter we got coming up to you
three different messages. One of them is an inventory of
the parts that we're recommending for the EVA. Second set
is assembly instructions, sort of a Heath kit kind of put-it-
together thing, and the third thing that's coming up is the
sort of EVA procedures - EV-1 do this, EV-2 do that. And that
will be coming up tonight while you're sleeping so you can
review that tomorrow whenever you get a chance. And tomorrow
evening we've got a Q&A session and some more detail inform-
ation scheduled on about a 1-hour pass or a 1-hour sec-
tion of time, two passes tomorrow evening. So, we'll be ready
for your questions on that kind of thing when you get a chance
to review the stuff that's coming up tonight. Okay, that's
Tuesday, then on Wednesday morning right now, we're tentatively
planning to give you about - something on the order of three
hours for getting all the stuff together and trying it out
there inside the workshop. You have a pretty good zero-g
simulator up there and we figured it'd probably be nice to
try it all out and distances are just about the inside of
the dome, as you can imagine, so that we figure a lot of this
stuff you can put together and play with. And if we got it
scheduled in the morning, we got a chance on TV you can hold
it up and say is this what you meant, or we think this is
better or whatever.

CDR Okay.

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MCC Okay, then Wednesday evening we want to try and perform the EVA on Thursday fairly early, so we got good coverage over the range and so in light of that we're trying to work it out so we can give you about an hour and a half or so Wednesday evening to do as much of the EVA prep that night so as to shorten the prep time on Thursday morning. Now, in -

CDR

Okay.

MCC

Okay now - if any time in between now and then you guys feel, for whatever reason, you think you need more time, just let us know and Friday's okay, too. There's no big (garble) on getting off on Thursday.

END OF TAPE

SL-II MC-536/1

Time: 2:35 CDT 12:02:35 GMT

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MCC - - for whatever reason. If you think you need more time, just let us know and Friday is okay too. There is no big (garble) on getting off on Thursday.

CDR Okay.

SCHWEICKART Okay, here let me give you now, this is sort of as I say an srm-wave reason of the kind of thing we're looking at and you can review the stuff coming up tonight in light of this and then let's go into it in detail tomorrow. So here we go. What we've got basically Pete after working a lot of stuff in the water tank here with the gear you've got onboard there and looking at all the good photos that you took is we'll kind of break it into 3 parts. One is setting up an EV trail to get down there and do the job. The second part is cutting the strap or getting rid of the strap. And the third part is raising the beam. If PJ got out the SAS, the SWS and SAS map there, I can talk a little bit from that. Did you get a hold of that thing?

CDR Yes we did.

SCHWEICKART Okay. Let's get our coordinatr system straight so that you guys can refer to it in the future and we'll know where you're talking about. The upper left hand corner, I figure starts at 1.0 and A0 so we can bring it down in tenths from there. So the upper right hand corner then is 10.0 and A0. Okay, what we plan on doing is getting EV2 up by the discone antenna with 5 poles, with the cable cutters on one end and the mushroom on the other end. And that means you've got to lengthen the rope and we've got the details coming up to you on that. The discone antennae is located at about 8.5 at B0. In other words 45 degrees between minus Y and minus Z up there right on the edge of the FAS. So you're reaching down and grabbing a hold of the debris with the cable cutters and you clamp onto some of the debris, preferably onto the strap you want to cut, and you clamp it that way and after you comes an EV trail. You don't go ahead and cut it you just clamp it. That then forms a trail down there. EV1 goes down the trail and hooks up a line, which we're calling the beam erection tether, to the bottom end of the number 1 vent module. We'll talk a little more of the details about that tomorrow, but you hook the line onto the bottom end of the vent module and that runs straight back up the beam and hooks on to the DA truss, there is a discone antennae A-frame crossmember up there that's right in line with it, and you take the tension up on that and you've got a tether all the way back to the A-frame. Okay, the preferred method of cutting that we can see now after working with all the tools, is

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Time: 2:35 CDT 12:02:35 GMT

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you've got it hooked onto the strap to go ahead and pull with the cable cutters and cut through the strap. If for whatever reason you guys don't like that, we've got the pry bar out there with you, you can either pry it off or you can use the bone saw, either one. Okay, after you get the beam cut, the idea is for EV 1 to move back just aft of the beam hinge and stand up, you've got that tether now with all the slack out of it that runs right back along the beam, you stand up just after the beam hinge and you become a gin pole. You just stand up and lift up on the rope and you can get a devil of a lot of tension in it, you put a good hinge (garble) around the beam and you're up on top of it, and the beam comes, you break the bracket on the actuator damper and up comes the beam. That's a general thing. We'll hope to see you a little later. We've got 14 seconds to LOS.

CDR Okay. I hope you don't pull too hard or you're going to get swatted like a fly swatter.

SCHWEICKART No, we've done it a lot Pete, and it's kind of fun as a matter of fact. You'll enjoy watching it come up.

CDR Okay.

SCHWEICKART Adios.

CDR Adios.

SCHWEICKART See you in the morning.

CDR Rog.

PAO This is Skylab Control. Greenwich mean time 2 hours 39 minutes. The pass over Guam had astronaut Rusty Schweickart discussing with the Skylab crew the procedures to be carried out in performing, releasing the orbital workshop solar array. The procedures are being passed up tonight on the teleprinter while the crew is asleep and they are expected to review them tomorrow. Then tomorrow they will discuss it with the ground and have a - tomorrow evening have a question and answer session and then on Thursday morning they are scheduled to have three more hours of getting the material together, laying it out in the workshop, and using the television camera to transmit to the ground. Then again Wednesday evening they are scheduled to do 1-1/2 hours of EVA prep to give them more time for the EVA Thursday morning. The crew has been bid goodnight as they passed over the Guam tracking station. This is Skylab Control at 2 hours 41 minutes.

END OF TAPE

SL-II MC-537/1

Time: 21:46 CDT, 12:02:46 GMT

6/4/73

PAO This is Skylab Control, Greenwich mean time two hours 46 minutes. The 11th day of Skylab mission Monday, June 4th has been described as another successful day of science activities. The decision was made today by William C. Schneider, Director of Skylab Program Office, that an EVA will be performed - will be attempted on Thursday to repair the stuck solar panel on the orbital workshop. Earlier this evening Rusty Schweickart, backup Commander for Skylab 2 mission, discussed with the crew the procedures that will be followed to free this stuck solar panel. He told the crew that tonight the inventory parts for the EVA assembly instructions and EVA procedures would be passed up on the teleprinter. Tuesday the crew will spend some time discussing the procedures with the ground. And on Wednesday another three hours will be spent by the crew in assembling the various parts to be used in the EVA. Tuesday, June 5th, will be another day of scientific activity aboard the Skylab space station with EREP pass number five and MO-92 and M-171 experiments. MO-92 subject will be Commander Pete Conrad - this experiment is performed three times during the Skylab mission - pardon me - MO-92 is performed every three days on each crewman throughout the mission. M-171 is performed five times throughout the mission. The fifth EREP pass scheduled for tomorrow will be accomplished during a 318th revolution as the Skylab space station passes over the northeast corner of Nevada and crosses over Utah, Colorado, New Mexico, and Texas. Scientists are particularly interested in the Houston area test site, HATS, as it is referred to in the mission control center. There are 12 test sites within the HATS area, which covers nearly 20 counties in the Gulf Coast area. Tomorrow's EREP will also provide data for an Oshkosh, Wisconsin high school student, Joe B. Zmolek. Zmolek is one of 25 U.S. high school students whose experiment has been selected to fly aboard Skylab. His experiment ED-11 atmospheric heat absorption will use data gathered during EREP passes. More than 30 sites are scheduled to be covered during the 12-minute 2800 mile pass which starts in Nevada and ends in the Gulf of Mexico, just above the Yucatan Peninsula. At Greenwich mean time two hours and 48 minutes as the Skylab space station nears the end of its 309th revolution, the crew is bedding down for the night. Public Affairs console will close down. The next report will be at 6:00 a.m. central daylight time, Tuesday, June 5th. This is Skylab Control, Greenwich mean time two hours 49 minutes.

END OF TAPE

SL-II MC538/1

Time: 06:19 CDT, 12:11:19 GMT
6/5/73

PAO This is Skylab Control; 11:19 Greenwich mean time, 50 seconds to acquisition at Goldstone tracking station for what will probably be wakeup time for the crew of the Skylab space station. Another busy day again for the crew of Skylab with several medical experiments scheduled for today's flight plan and Earth resources survey run number 5 along ground track 34. Also several runs of the telescope mount solar physics experiments. We'll stand by now as the spacecraft comes across the states during the end of revolution 314.

CC Skylab, Houston; we've got you state-side for 12 minutes.

SC Very great.

CC And be advised that sometime during this pass we're going to be dumping the data recorder.

SC Okay.

CC Skylab, Houston; be advised we're going to command the primary coolant loop OFF, part of our normal morning powerdown procedures.

CC Skylab, Houston, we're going to have a short break and we'll pick you up in Bermuda.

SC Okay.

END OF TAPE

SL-II MC-539/1

Time: 06:32 CDT, 11:12:32 GMT
6/5/73

CC Skylab, Houston. We're AOS again in Bermuda
for the next 5 minutes.

SC Good work.

CC How about that.

CC Skylab, Houston. We're 1 minute to LOS.
We're going to see you at Madrid at 11:43.

SC Roger, Houston.

PAO This is Skylab Control. A brief gap here
between Bermuda and Madrid as the space station crosses the
North Atlantic. The crew rather quiet so far this morning
as they go about their postsleep activities of getting break-
fast. Telemetry from Madrid is showing a 70.6 percent state
of charge on the ATM batteries at this time.

CC Houston, we're AOS at Madrid for the next
9 minutes. And be advised about 1 minute or a minute and a half
into the pass, we will have a keyhole about 45 seconds long.

SC Okay.

SC Hey, Richard. You got any news down there
this morning? We don't know what's going on.

CC Let me see if I can drum up what's going
on in the world for you all.

END OF TAPE

SL-II MC-540/1

Time: 06:43 CDT, 12:11:4, GMT
6/5/73

SC Hey, Richard, you got any news down
there this morning? We don't know what's going on.
CC Let me see if I can drum up what's going
on in the world for you all.

CC Skylab, Houston. We're out of keyhole
at Madrid. We've still got about 5 minutes left in the pass.
And one thing, just like every day since you guys have taken
off, you're on the front page. And today there's an article
on the front page of the morning paper, that your space walk
has been given an okay. And a pretty long column and you might
be interested to know that over on our bulletin board is a
congratulatory message from some members of Congress to NASA,
about the way we've handled this mission so far. Also I've got
a couple of notes for the CDR this morning. First one is in
reference to the conversation, I guess, you had, Pete, last
evening just before bed about the fact that some of the comments
that you have been putting on Channel B on medical status data
hadn't been getting to the right people. Please be advised
that this was a mix-up. The data is indeed in the MOCR and we
had a breakdown in communication, which we have rectified. Your
recorded data has been excellent. And we'd appreciate it if
you'd keep recording the data on Channel B. We have got it to
the right people and we'll continue to do so.

SC Way we go, Dick.

CC And one more item for the CDR, on his
Flight Plan today, is very minor. On the S009 item on the
Flight Plan, it says S009 SET. It should say S009 INITIATE,
which will send you to the proper page in the checklist for
what we want to accomplish this morning.

SC Roger. Copy that, Dick.

CC Okay.

CC Skylab, Houston. We're one minute
from LOS. We're going to see you down at Honeysuckle at
12:28.

SC Rog. 12:28.

PAO This is Skylab Control; loss of signal
through the Madrid Tracking Station; Honeysuckle Creek, Australia,
in 34 minutes. At 11:53 Greenwich mean time; Skylab Control;
out.

END OF TAPE

SL-11 MC541/1

Time: 07:26 CDT, 12:12:26 GMT
6/5/73

PAO This is SKylab Control; 12:27 Greenwich mean time. 50 seconds away from acquisition at Honeysuckle Creek, Australia. Looking at a weather map for today's earth resources pass coming diagonally across the Western United States from the Oregon Coast and out the Texas Gulf Coast, shows a 0 to .3 cloud cover over most of the area except the Gulf Coast Region where the cloud cover becomes .8 to full cloud cover. There's a low pressure trough running almost parallel to the Gulf Coast of Texas, a couple hundred miles inland that's causing the cloudiness, and a couple of high pressure areas.

CC -- for 9 minutes.

SC Roger, Dick. What I'd like to do if I get a chance, is start this TV 12 a little early today. I just want a varification - the PTR is ready for it.

CC Roger. Stand by one.

CC Skylab, Houston. We concur. If you're ready to go ahead with the TV 12, it's okay with us.

SC Okay. It'll be a while but I just wanted to make sure.

CC I understand. Anytime you get to it.

SC Okay.

CC And Skylab, Houston, one update on your solar activity pad that we've already sent up, filament number 70 has dissipated and the second point is that new region prominence 73 at 280 degrees and 1.0 has been moderately active.

SC Okay, Dick. I think that's the prominence we channel B'ed you last night.

CC Roger.

SC Yeah. We were fooling around the Sun --

SC We weren't fooling around. We were observing.

SC And "Scientific" noticed the prominence and we noticed a brightening in XUV mon in that area, and wondered if there was an active region due to return at that point.

CC Roger. Understand. And sometime prior to EREP, I've got one minor correction to the EREP operate pad that belongs to the CDP this morning. But we got a while so any one of these passes when you got it in your hand, I'll be glad to read it up to you.

SC Go ahead and read it, Dick. I'll - I'll copy it in the interlude.

CC Okay, it's about - it's over in operate column oh, a little more than half way down and at a time - just below the time of 1801 plus 17. And over there in the

SL-II MC541/2

Time: 07:26 CDT, 12:12:26 GMT
6/5/73

right where it says mode-ITNC, I want to delete L/R. That's the only change.

SC Got it.

CC Roger.

CC Skylab, Houston. Be advised that here at Honeysuckle we're going to start a series of commands to configure the bird 2 rate gyros per axis for the day.

SC Roger, Dick.

SC And Houston, I don't need an answer this time, but something - I notice you're forecasting .4 clouds cover in the Houston area today for that EREP site. And I can't see any of the advertised ones, is there any reason I shouldn't go after another one?

SC Hello Houston, Skylab.

CC Go ahead, PLT.

SC Did you get my last on the VIS site?

CC Affirm, Paul. And I've got an answer

for you. Incidentally the cloud coverage predicted, a little bit worse than what we read up to you. Right now it's quite possible that it might be in places, .7 up to an overcast. However, the answer to your question is; certainly if you - assuming that you take into consideration upcoming sites ahead of you, and you get a chance to go to an alternate, go ahead.

SC Okay.

CC And be advised, we're about 45 seconds from LOS. We're going to see you at Hawaii at 12:48.

SC Righty, dighty.

PAO This is Skylab Control. Loss of signal through the Honeysuckle Creek- Australia tracking station. Part of the air-to-ground communications during the Honeysuckle Creek pass concerned the cloud cover toward the end of the Continental United States portion of today's earth resources experiment package survey. The fifth for the Skylab mission. This fifth survey is of the surface and atmosphere of the Earth; begins at 12:57 p.m. Central daylight time. And ends at 1:09 p.m. Following ground track 34, the earth resources experiment package pass begins in Southeast Oregon, crosses Nevada, Utah, Colorado, New Mexico, Texas, Gulf of Mexico, and ends in the Caribbean Sea just north of the canal zone. Data will be gathered for a period of 12 minutes. During today's EREP pass the S190 B earth terrain camera will be used for the first time. The camera will be operated by Science Pilot, Dr. Joseph Kerwin, and uses a single 18 inch focal length lens with 5 inch wide film. The camera is designed to use high resolution color

SL-II MC541/3

Time: 07:26 CDT, 12:12:26 GMT
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film. And can provide detailed resolution photographs of objects as small as 38 feet. Robin I. Welch, of the Earth Satellite Corporation, Berkeley, California, will use data from today's pass over the Colorado Plateau in developing a uniform legend and procedure for the mapping and classification of the natural resources on a global basis. Data gained for Dr. J. R. Eagleman, of The Center for Research, at the University of Kansas, will be used in determining the techniques and procedures required to use microwave data for the identification of available moisture, either in the soil or in snow packs. And to evaluate the microwave system, providing management and scheduling instruments for determining the availability of water for agriculture and potential for flood forecasting. Photo interpretation of the S190A, S190B, and S192 imagery will be used by Dr. Keenan Lee, of the Colorado School of Mines in Golden, Colorado, for mapping geological features in Western Colorado. Dr. Lee also will study S191 data to determine the effects of atmospheric attenuation on rocks spectra. S190 and S192 imagery will be studied visually and by means of densitometry and additive color viewing to identify the fracture patterns, offset of formations, rock color differences, and vegetation patterns. Color features identified with no mineral deposits and other areas that seem to contain features diagnostic of mineral deposits, which are not now known to contain economic deposits. This experiment is being carried out for Dr. Mead Leroy Jensen, Director of Laboratory of Isotope Geology, at the University of Utah. Information will be acquired on areas in Nevada and Utah. Dr. V. R. Baker, department of Geological Sciences, University of Texas, will use data to perform the stream network analysis of the Guadalupe and Colorado River basins in Texas, assuming, of course, that this cloud cover mentioned on the air ground during the Honeysuckle pass doesn't get worse, if it could get worse. Scientists from the Johnson Space Center will be interested in data from today's pass for study in connection with the Houston Area Test Site Project. Dr. C. L. Korb is interested in using data for mapping the absolute sea surface temperature, correlating this measurement with chlorophyll concentration, known fishing areas, and ocean currents. Dr. Thomas L. Barnett will use data to develop methods to permit operation satellites to collect their own correction data, which are comparison of mathematical inversion to extract temperature in water vapor vertical distribution profiles from radiances used to calculate attenuation effects in atmospheric windows

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Time: 07:26 CDT, 12:12:26 GMT
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spectra of targets taken at two or more angles to yield gross and atmospheric effects directly. That's got to be one sentence. Let's jump down to the next sentence, okay? Evaluation of the application of EREP sensors to land classification in the Houston area is the purpose of information being gathered for Dr. R. Bryan Erb. Several other principal investigators are interested in information being gathered in todays pass for other related research projects. Three minutes from AOS Hawaii. 12:44 Greenwich mean time. We'll leave the circuit up for Hawaii. A brief break between Hawaii and the states during the end of revolution 315. Skylab Control standing by.

END OF TAPE

SL-II MC-542/1

Time: 07:45 CDT, 12:12:45 GMT
6/5/73

PAO We have acquisition at Hawaii. Standing
by for CAP COM Dick Truly's resumption of air-to-ground
communications with the Skylab Space Station crew.

CC Skylab, Houston. We're AOS Hawaii
for 9 minutes.

SC Hello.

SC Hey, Dick. There was one message in
the odds and ends about any items that appear to be deteriorating
and should be returned on SL-2 or be resupplied on SL-3.
We don't have anything deteriorating that's worth returning.
We mentioned the shoes, which - PJ's are beginning to come
apart, because you don't wear your triangle shoes all the time.
You tend to stick the other ones in the floor for a hold. It
kind of wears them out in a hurry. But the only other item
that I know of that we've had some trouble with is we - we had
trouble with one astro pin, and in the process of trying to
replace it with another one from another place, we destroyed
the second one. And - So we have two handles up here to that
astro pin's missing out of them. In the event that Al and
those guys want to, they should bring two spare astro pins to
fit handles along. However, we've found very little
use for the handles. We haven't used them at all.

CC Roger, Pete. Understand. I think
the purpose of that was just a - you know, get you to kind of
thinking about it so if there are some things that you run
into that you think we ought to think about flying up there,
we hear about them as soon as possible, so we can, you know,
do our planning.

SC Yeah. We'll sure tell you about it.
But right now I can't think of any.

CC Okay.

SC Hank, there is one thing that PJ just
mentioned. We're - I think our usage of grey tape is probably
higher than they expected. And I would suspect, somewhere
along the line, somebody would want to bring some more grey
tape.

CC Roger. That doesn't surprise me.

SC Yeah. We use it for virtually anything
you can think of. And we're using it at pretty high rate.

CC Okay. Thank you much. We'll pass
these on and anymore you think of as you go along.

SC Right now Joe and I - this is our
first chance to study this EVA stuff. We're here looking at
it.

CC Roger. Okay. Well, we thought we'd
pass it up to you and let you browse over it today. And then
you can think about it a little bit, and we can talk about
it this evening or, for that matter, any time you get a chance.

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Time: 07:45 CDT, 12:12:45 GMT
6/5/73

But I'm sure that Rusty will plan on being here this evening, when we've got it scheduled for a couple of passes to talk about.

CC And Skylab; Houston. One note from the GNS on RATE CYRO number Y3 in some observations we made last evening. He noticed that the output of CYRO Y3 oscillates at about 3 cycles per second when the wheel is inhibited. But the output looks good as long as the wheel is enabled, and so we've elected to leave it powered and enabled. Over.

SC

Okay.

CC
changes.

And we'll keep you posted if that

CC Skylab, Houston. We're one minute to LOS. We got a real short break and see you in Goldstone on the hour.

SC

Okay.

END OF TAPE

END OF TAPE

SL-II MC543/1

Time: 07:58 CDT, 12:12:58 GMT
6/5/73

PAO This is Skylab Control; 12:58 Greenwich
mean time. About 2 minutes gap here between Hawaii and Goldstone
acquisition on rev 315. But it'll stay up across the States and
on through to Canary and Ascension. Since there are such small
gaps between stations at these altitudes that Skylab is flying,
the station overlaps are much greater than at the 100 mile orbit
that was flown in earlier programs. 12:59 Greenwich time; standing
by, Skylab Control.

END OF TAPE

SL-II MC544/1

Time: 08:09 CDT, 12:13:09 GMT

6/5/73

CC Skylab, Houston; AOS for 6 minutes.
We have lost comm over Goldstone.

SC Roger, Houston.

CC Skylab, the tape recorder will be dumped
at the next pass over Canary coming up.

SC (Garble) Houston.

CC Go ahead, Skylab.

SC Houston, SPT.

CC Go, SPT.

SC Okay, in this morning's department of
odds and ends, we've got two new medical breakthroughs to
report, both mouth sounds and snoring are just as loud in
zero-g as they are in 1.

CC We copy that, Joe, and did you hear any
TACS firings last?

SC Well. No. We hear TACS firing just after
passing into sunset and just after coming out again in the
day and they're curiously metallic sounds as though something
were expanding and contracting outside.

CC Okay, we copy that.

SC Yeah, Houston. There's one spot that's
obviously gotten one piece of metal that does some popping and
shortly after going into darkness it lets go and sounds an
awful lot like a TACS, but it isn't and when we have the TACS
inhibited sure enough it continues to make it's voice - just
does it like Joe says, "once in and once out" does firing
twice.

CC We copy that, Pete.

CC Pete, do you think that the sounds you
reported the other evening could possibly have been the same
sounds?

SC Yes sir, I do. It's very similar to a
TACS firing and that's what was confusing you and me both
because it sounds an awful lot like a TACS. What it sounds
like is a muffled shotgun going off, is what it sounds like
when the TACS fires. Go to zips. Go different but it's a
different location and depending on where the TACS - which
TACS fired you get a different sound also, but I think I was
confusing this obvious thermal expansion and contraction of
something as the TACS firing.

CC Okay, and we're going LOS here. We'll
have you at Canary at 13:20. Apropos Joe's first transmission,
there are other sounds that you have to watch out for that in
SNEAT we could have confused with TACS.

SC Hold steady (static).

END OF TAPE

SL-II MC545/1

Time: 08:19 CDT, 12:13:19 GMT
6/5/73

CC High in Skylab, we're AOS again for 9 minutes.
SC Roger, Houston.
SC Dance, Houston; S009 is off on time.
CC We copy, Pete.
CC Skylab, if you called, we're standing by.
SC Yeah, i can't get any power on the VTR.
Have you got any ideas?
CC Stand by.
SC Hello, Houston; Skylab. You there?
CC We're still here.
SC I say I cannot get power to the video
tape recorder. Have you got any ideas - quickly?
CC Stand by 1/2.
CC To get power to that, you have to have
the power outlet ON. That's the accessory high power which is
115. Also the circuit breaker on panel 202 ON and MAIN VTR
POWER ON.
CC And we're showing your MAIN VTR POWER
OFF at the moment.
SC Okay, we got it. Sloppy housekeeping -
We had used the vacuum cleaner up forward yesterday on that
outlet, and I have to take one for that because I did not plug
the VTR back in.
CC We copy.
SC So I guess you didn't try to dump them
last night, huh?
CC Aah, we didn't get a dump last night.
SC Is there enough tape on here to do this
TV this morning, Bill?
CC Supposed to be, but stand by 1/2. You've
got 30 minutes.
SC Well, I'll go ahead and run it. We either
reach the end of the tape or we'll get it on. I may have to -
I'll be glad to run it again for you, because I boo-booed.
CC Paul, you're supposed to have enough.
You have 30 minutes.
CC And be advised we have completed un-
attended OPS and are closing the fine Sun-sensor door.
SC Roger.
CC Skylab, Houston. LOS in 1 minute;
Goldstone - Correction: Carnarvon 14:03.
SC All right.
PAO This is Skylab Control; 13:37 Greenwich
mean time. Twenty-five minutes to Carnarvon, next station.
However, a very low elevation angle - only 2.3 degrees above
the horizon at Carnarvon. Honeysuckle, lapping over Carnarvon,

SL-II MC545/2

Time: 08:19 CDT, 12:13:19 GMT
6/5/73

almost 20 degrees elevation. The following is a statement by Skylab Program Director William C. Schneider at NASA Headquarters, regarding the possible extension of Skylab-II mission. The statement is as follows. "As part of the comprehensive examination of all alternatives to relieving the Skylab power management problem and maximizing the scientific return from the program, an alternative of extending the first manned mission from 28 to 38 days was reviewed. The review has resulted in a conclusion that there is no justification for any extension of the mission at this time. Skylab continues with a duration for the first manned mission of up to 28 days. Inflight medical data continues to be gathered during this mission and has revealed absolutely no inflight medical concern. All crew physiological responses are as expected, as has been reported in the daily bulletins. The crew has consistently reported no difficulty and this has been confirmed by the telemetry data." Twenty-three minutes to Carnarvon and Honeysuckle. At 13:39 Greenwich mean time, Skylab Control out.

END OF TAPE

SL-II MC-546/1

Time: 09:02 CDT, 12:14:02 GMT
6/5/73

PAO This is Skylab Control; 14:02 Greenwich mean time. Fifty seconds away from acquisition through the Honeysuckle Creek and the portion of the Carnarvon Tracking Station. Flight Director Chuck Lewis is leaving the Control Center at this time enroute to the Houston News Center for a change-of-shift briefing. This will be followed at 10:00 a.m. with Dr. Royce Hawkins, with a briefing on the status of medical experiments and crew medical reactions in the mission up to this time. We're AOS through Carnarvon and Honeysuckle. We'll stand by for resumption of air-ground.

PAO Skylab Control. The average air ambient temperature in Skylab Space Station this morning is reported to be 76 degrees Fahrenheit, coming down slowly. Eight minutes remaining in Honeysuckle and Carnarvon Tracking Station passes. The change-of-shift press briefing will begin within the next 5 minutes or so, as soon as Chuck Lewis arrives at the Houston News Center. Standing by for the remainder of Honeysuckle pass, Skylab Control.

SC

Houston, Skylab. You've got a key down.

CC

Thank you.

CC

We copy.

CC

Skylab, if you're calling, Houston

standing by.

SC

Negative.

PAO

This is Skylab Control. The change-of-shift press briefing will begin momentarily with Flight Director Chuck Lewis in the Houston News Room. We will take down the air-to-ground circuit at this time and tape record any further conversations between the crew of Skylab and the spacecraft communicator in this Honeysuckle pass and the upcoming Hawaii pass. At 14:11 Greenwich mean time, Skylab Control out.

END OF TAPE

SL-II MC547/1

Time: 09:36 CDT, 12:14:36 GMT

6/5/73

PAO This is Skylab Control; 14:37 coming up on stateside pass. We'll delay playback of the Honeysuckle and Hawaii passes until after LOS or until after the press conference, whichever ever comes first at 10 o'clock.

SC Do you read me?

CC That's affirm.

SC Okay (garble) for one you'll notice where you can see the dip with the little piece of prominence still attached (garble) directly above it is this piece that appears to be departing the Sun. I'll move the disk off the tube a little bit so that you can see a little better.

CC Copy.

CC PLT, the TV is being received on the ground at the site but it isn't coming realtime to Houston. And we appreciate your comments though.

SC Okay, if that's enough I'll get on with this downlink.

CC Okay.

CC Okay, Paul. Understand that we'd still be interested in your comments because we'll be seeing it a short time later.

SC Yes sir, understand.

CC Skylab, one minute LOS; Bermuda at 14:47. Also we will be dumping the tape recorder at Carnarvon.

SC Okay be advised that TV 12 on there is about 10 to 12 minutes, Bill.

CC We copy, Paul.

CC Skylab, Houston; AOS for approximately 11 minutes.

SC Oh, it's a long one, huh?

CC That's affirm.

SC Now for the ATM people I couldn't make out any libration clouds. I think our picture is a little too poor quality to be able to see them although we'll sure keep trying.

CC We copy.

END OF TAPE

548/1

Time: 09:49 CDT, 12:14:49 GMT

6/5/73

SC Hello, Houston. You there?

CC Yeah, we're standing by.

SC Okay, I've got a quick question on this first job we're doing - the pad says 82A auto 1 long which I assumed meant both places in the building block. I just looked it up. I see it takes 28 minutes - do you want me to enter up the one that's running now, go ahead and do my roll and pick it up again?

CC Stand by 1/2.

CC PLT, Houston. That's a long wavelength of a 7.1 minute exposure.

SC Okay.

CC PLT, grounds termination on time here.

SC Okay, thank you.

CC SPT, Houston.

SC Go ahead, Houston.

CC CDR might be advised that the Cubs haven't been doing very well recently.

SC Roger, Bill, understand.

SC We figured as much.

CC We'll be LOS in about a minute; coming up on Ascension in about 8 minutes. And we want you to delay the M171 run until reaching Ascension.

SC You're throwing our whole time line off.

SC Houston, we've got other things scheduled. I'm afraid we're going to have to press on but - well, listen tell me what time Ascension is.

CC Ascension is 15:04.

SC Oh, well, hell that's only 5 minutes from now.

PAO This is Skylab Control; 14:58 Greenwich mean time; loss of signal through Bermuda at the end of that stateside pass at the outset of revolution 317; we have 2 minutes and 45 seconds of recorded air-to-ground that was picked up during the last Honeysuckle and Hawaii pass during the time the Change of Shift Conference was underway. We'll play that back during this gap before Ascension. AOS at Ascension in about 5 minutes. Let's roll that tape and then go live again with Ascension.

END OF TAPE

SL-II 549/1

Time: 09:59 CDT, 12:14:59 GMT

6/5/73

PAO Let's roll that tape and then go live again with Ascension.

CC Skylab, Houston. LOS in 1 minute; Hawaii at 14:25. And, PLT, we would like you to go AUTO on the star tracker.

SC Okay, you want AUTO right now, huh?

CC That's affirm.

SC You guys do good work.

CC Copy.

CC SPT, Houston. We may have a ground problem here, but if you would verify that on panel 617 INSTRUMENTATION MODE SELECT is at B (static).

SC Go ahead.

CC SPT, verify 617 INSTRUMENT MODE SELECT B.

SC (garble) LOS?

CC That's affirm.

CC Skylab, Houston. AOS for 9 minutes.

SC Houston, Skylab.

CC Go, Skylab.

SC Okay, these two tape recorder switches looked like they were at Bravo, but they were at Charlie. They have to approach them from A, or else they don't read right for (garble).

CC We copy that.

CC Skylab, we're going LOS in about a minute. We'll have you at Goldstone at 14:38. And, SPT, since the instrumentation recorder switch was off there at the beginning, they lost CAL; so if you'd do at least a 25-second CAL before shutting down the recorder on this one - per the checklist, please, sir.

SC I started the whole procedure over again, Houston.

CC Copy that.

SC Hello, Houston; Skylab. You there?

CC We're still here. Go, Paul.

SC Okay. For information, the prominence is 2801 and, compared to last night, is departing the surface of the Sun. It no longer appears to be attached and is - oh, I'd say 0.05 solar radii above the wire - the H-alpha lift.

CC We copy that.

PAO This is Skylab Control with (garble) playback of the Honeysuckle and Hawaii pass. Two minutes to Ascension, and there has been a half hour delay in the start of the Medical Briefing with Dr. Royce Hawkins in the Houston News Center. It's now scheduled for 10:30 a.m. - no earlier than 10:30 a.m. central daylight time. Minute and a half away from Ascension Island pass, which will last approximately 10 minutes. Skylab Control, at 15:02, standing by.

END OF TAPE

SL-II MC550/1

Time: 10:03 CDT, 12:15:03 GMT

6/5/73

CC Skylab, Houston we're AOS for 9 minutes.
SC Roger.
SC Houston, CDR.
CC Go, CDR.
SC At their convenience sometime I'd like
to talk to Dr. Kraft private.
CC Wilco.
CC SPT, Houston.
SC Stand by.
SC Go ahead, Houston.
CC They want you to proceed per the pad -
repeat per the pad on M171.
SC Roger.
SC Understand that means we are to use the
140 workload for the CDR.
CC Joe, you can use either the 125 or the
155 - it's your option.
CC That's on the third level.
SC Oh, it's our option. Okay, thank you.
CC Skylab, we're going LOS in about 1-1/2
minute. We'll see you at Carnarvon at 15:37.
SC Roger, how did your data look?
CC It's looking good.
SC Okay.
SC Houston, you still there?
CC We still have you.
SC That figures. Quit plugging corona-
graph will you. I was running it continuous and all of a sudden
I have a ready light.
CC Copy.
SC And, we've got about a minute to look; I've
got to get on with this align.
CC Copy.
PAO This is Skylab Control; 15:16 Greenwich
mean time. Loss of signal through Ascension Island. Presently
the science pilot and commander operating the M092 - lower
body negative pressure experiment and the associated experi-
ment metabolic activity, M171; while the pilot Paul Weitz
is making the first Apollo telescope mount solar observatory
run of the day. 20 minutes to acquisition at Carnarvon,
Australia; and at 15:16 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-551/1

Time: 10:35 CDT, 12:15:35 GMT
6/5/73

PAO This is Skylab Control; 15:35 Greenwich mean time, about 2 minutes away from acquisition at the Carnarvon, Australia, Tracking Station. There goes the warbler in the control room, here, to alert controllers that we're 2 minutes away. Currently, state of charge of the ATM batteries running about 70 percent. Average for the 16 of 18 batteries still on line. Air temperatures in the workshop are hanging in around 76 degrees Fahrenheit. Orbital measurements 231.7 nautical at perigee by 241.4 at apogee. Period: 1 hour 33 minutes 22 seconds. During the most recent station pass over Ascension Island, Skylab Commander Pete Conrad asked for a private conversation with the Johnson Space Center Director, Christopher C. Kraft, Jr. We have no definite word when that will take place. But after it's conclusion, the summary of that private conversation will be read over this broadcast line. A medical briefing with Dr. Royce Hawkins is scheduled to begin within the next several minutes in the newsroom. Any air-ground will be recorded for delayed playback after the medical briefing on experiment status. Standing by for Carnarvon acquisition - -

CC AOS for 10 minutes.

SC Roger.

PAO This is Skylab Control, we've received word that Dr. Hawkins briefing on medical status will be delayed indefinitely and rescheduled with as much advanced notice, as possible. Up live for Carnarvon pass.

SC PLT, Houston.

SC Go ahead.

CC The power situation has improved here. It looks as if we can get some better data by longer warmup times, so at 16:00 we want C&D power ON and S191 power ON. That last one is per EREP procedure 6-1.

CC All right the PLT copies that.

CC Okay.

CC Skylab; LOS in one minute. Guam 15:51
AOS. CDR your request will be honored during the Guam pass.

SC Roger.

PAO This is Skylab Control; 15:47 Greenwich mean time. We've had loss of signal through the Carnarvon Australia Tracking Station. We're three minutes away from the Guam Island Tracking Station. However, this will be the private conversation requested by Skylab Commander Pete Conrad, with Johnson Space Center Director, Christopher C. Kraft Jr. Therefore, we'll be back live for the stateside pass at Goldstone in about 28 minutes. At 15:48 Greenwich mean time; Skylab Control.

END OF TAPE

SL-II MC552/1

Time: 11:15 CDT, 12:16:15 GMT

6/5/73

PAO This is Skylab Control; 16:15 Greenwich
mean time. About 50 seconds to acquisition at Goldstone
for a fairly solid stateside pass.

CC Skylab, Houston. AOS for 7 minutes.

CC PLT, Houston.

CC PLT, Houston.

CC Skylab, Houston. This is a reminder to
power down C&D panel power while doing the tape recorder
switch over.

CC SPT, this is a reminder that the H-alpha
camera has to be turned on manually.

SC Houston, CDR.

CC Go, CDR.

SC Okay. The EREP prep pad, y'all asked for
K5 film reading, which has 25 magazine on it, and it reads
8337. Over.

CC Copy.

END OF TAPE

SL-II MC 553/ 1

Time: 11:27 CDT, 12:16:27 GMT
6/5/73

SC Houston, SPT. You there?
CC Go, SPT.
SC Okay. I'm observing something interesting we haven't seen before and I'd like you guys to look at it. My experiment row indication is decreasing at about a, you know, normal roll-rate roll. Now, the canister is not rolling. The canister roll isn't changing - out the window the canister isn't moving, and the TV display is steady. Like you guys to look and advise on that.

CC Joe, the startracker is apparently locked up on something odd, and we'll have to go manually here. We're coming up with some numbers for you.

SC Ho, ho.
SC Very good. Our orbital (garble) is now 36 degrees.

CC Copy. And we'll be dumping the tape recorder at MILA at 16:24.
SC Roger.
SC My startracker pad still good?
CC Negative, Joe. Your pad's no good. We're trying to work up some numbers.

SC (garble) I'd rather have something fairly (garble) before the computer tries to dump all that false momentum, or something.

CC Okay.
CC SPT, Houston. The numbers are for the inner gimbal, minus 8; outer gimbal, plus 1084. Inner gimbal minus 8 and outer plus 1084. That's minus 8 for the inner.

SC Got it. Is that our friend astronaut?
CC Affirm.
CC Skylab, Houston. We're going LOS in about 30 seconds, and we'll have you again at 17:15.
SC Roger.
CC That's Carnarvon, 17:15.
SC Okay, and we got the star, Houston.
CC Copy.

PAO This is Skylab Control; as the air ground circuit gets scratchy it means we've had loss of signal as the space station Skylab goes over the horizon from Bermuda. Next station, Carnarvon in 39 minutes. The private conversation requested by Pete Conrad was held over the Guam Island station during the middle part of the last revolution with Johnson Space Center Director Christopher C. Kraft. A summary of that private conversation will be forth coming. No estimate at this time. In - At 16:36 Greenwich mean time, with 38 minutes to go to next station at Carnarvon, this is Skylab Control.

END OF TAPE

SL-II MC-554/1

Time: 12:13 CDT, 12:17:13 GMT
6/5/73

PAO This is Skylab Control; 17:14 Greenwich mean time. Some 40 seconds away from Carnarvon acquisition. Midway through Earth orbit number 318. Final Carnarvon pass of the day. And a brief pause and across Guam again for the final time today - -

CC AOS 9 minutes.

SC Hello.

CC Skylab, Houston. AOS for 9 minutes and we have some EREP messages here.

SC Okay. Stand by for one minute, please Houston, on that.

CC Wilco.

SC Go ahead, Houston.

CC On S194 you may get a momentary malfunction light, while calibrating. If the cal source is not within limits, it may stay on. No action's required.

SC Roger.

CC On S19A (sic), malfunction light may come on any camera during the run and no action's required on that. You also may have malfunction light on the tape recorder for 5 seconds as it comes up to speed, again no action is required.

SC Okay. We understand all those.

SC (garble) that's 190 (garble) We had no maf light.

CC Copy.

SC Hello, Houston. We've got a configuration question for you.

CC Go, Skylab.

SC Notice on panel 225. On the 5 psi the ATM and the LPG reservoirs. We got one REG open and one closed. We're pretty sure it's not right. What configuration do you want on that?

CC Stand by.

CC PLT, Houston.

SC Go ahead, Houston.

CC Both REGS should be open on panel 225.

SC Thank you.

CC Skylab, we're going to LOS in about 4 or 5 seconds. We'll see you at Guam at 17:29.

PAO This is Skylab Control; loss of signal from Carnarvon. About a 6 minute gap across the Philippine Sea to the start of Guam acquisition. It was at the last Guam pass that the private conversation requested by Pete Conrad was held. As mentioned earlier, a summary of this private conversation will be forth coming. 17:25 standing by for Guam in 3 minutes; Skylab Control.

END OF TAPE

SL-II MC555/1

Time: 12:29 CDT, 12:17:29 GMT
6/5/73

CC Skylab, Houston. AOS for 6 minutes.
SC Roger, Houston.
SC Houston, SPT.
CC Go SPT.
SC Okay. We're going to reenab TACS for
this DOV maneuver, and I was wondering about reenabling CMG
AUTO RESET. That was not in any of the checklist updates that
you sent us. Is it desirable or not? Over.
CC Do not reenab the CMG RESET. Joe,
do not reenab the CMG RESET.
SC Okay.
CC And we do agree with reenabling the
TACS, of course.
SC Okay.
SC Houston, I've got one other word for plan-
ning on future passes. And I think you gave more time for
that operator number 2 between getting the star tracker locked
on and getting over to the VTS. Today there's only a minute and
a half - a minute and 40 seconds from star tracker walk-on to
first right acquisition. I'd appreciate it if that would -
could be a little longer in the future.
CC We copy, and we'll take care of it.
SC Thank you.
CC SPT, Houston.
SC Go ahead.
CC We want to put the S054 filter to 1 and
then STORAGE.
SC Houston, SPT.
CC Go, SPT.
SC My power down for unattended checklist
said that S052 - to put the alined scales - to push the times
ahead. We would prefer to leave it at times 1. Is that okay
with them?
CC Stand by, Joe.
SC Houston, CDR.
CC Go, CDR.
SC (Static) Roger. Do you know when the tele-
printer gets another line, (static) or does one (garble)? (Garble).
CC CDR, you're squealing. We can't read you.
SC Okay (static) teleprinter (static)
CC CDR, you are unreadable.
SC (Garble) (static)
CC Tell him (garble).
CC Pete, we're unable to copy anything ex-
cept something about a teleprinter.
SC Roger, Houston. How's this?
CC You're loud and clear on that, Pete.
Go ahead.
SC Okay, thanx you.

SL-II MC555/2

Time: 12:29 CDT, 12:17:29 GMT
6/5/73

SC Can you tell when the teleprinter has
sent the same line twice?
CC Stand by, CDR.
CC And, SPT, your question - the answer to
your question is affirmative.
SC Thank you.
CC CDR, we cannot tell if it sent two lines.
SC Okay (garble) mode of interest (static)
(loud background noise).
SC My line (garble) (static)
CC Pete, it's virtually impossible to copy
you. We're going LOS here, and we'll have you at Goldstone
17:53. We understand you're having difficulties with
double printing on the teleprinter.

PAO This is Skylab Control. Loss of signal
from Guam Island Station. Some fairly bad communications
with the speaker box that Commander Pete Conrad was
to talk through; apparently concerning teleprinter station.
Fourteen minutes to stateside pass through - starting with
Goldstone. And the fifth Earth resources survey of the
starting at 12:57 central daylight and ending at 1:05 p.m.
begins in southeast Oregon, across Nevada, Utah, Colorado,
New Mexico, Texas, Gulf of Mexico and the Caribbean Sea
just north of the canal zone. However, the Gulf Coast
has a fairly heavy cloud cover, and some of the
EREP pass will likely be obscured or lost altogether.
today's EREP survey, the S190B, Earth resources survey
fired up for the first time and operated by
Joe Kerwin. The crew of Skylab usually (at least)
ators on the EREP equipment and sensors.
actuated intercom so that the ground is able to
checklist of turning on and off the EREP equipment
in 12 minutes. At 17:40 Greenwich mean time,
END OF TAPE

SL-II MC-556/2

Time: 12:52 CDT, 12:17:52 GET
6/5/73

SC MARK S192 STANDBY; Bravo 7 reads: 72
percent. Standing by for 8, plus 50.
SC Hey, S190B shows you feet is now at 100.
SC Burn across Florida?
SC No, in Texas - Houston.
SC (Garble)?
SC No.
SC Okay.
SC There it is, right here.
SC Oh, yeah.
SC Okay, Houston. Only got one of the
Houston sites; that was out in the water at 445 - I meant
415 and 420.
CC We copy, Paul.
SC Kind of got started on the nadir track a
little late, about 04:10. At 05:20 we started crossing land.
At 05:53 we're back over the water.
SC And your 191 information on this one,
Houston, we'll try and connect. We're passing over some
fair weather cue over the water on this slot.
CC Skylab, we're going LOS in about 4 or
5 seconds. Vanguard at 18:19.
SC Roger. Tape recorder. At 7:28, we passed
over land; at 7:35, we're back over water.
SC MARK SCAT STANDBY, RAD STANDBY, ETC to
STANDBY. MARK.
SC Roger.
SC VTS AUTO CAL, please.
SC Yes. Turn the ETC to frame counters 119.
SC Frame count is 119. Okay.
SC And also, Joe, it goes in the photo log,
I think.
SC Yeah. Thank you.
SC (Garble) 906 MODE MANUAL 090 (garble).
PAO This is Skylab Control. We've been LOS
for about 4 or 5 minutes here. And our next station is
Vanguard in 7 minutes. At 18:12 Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-II MCS57/1

Time: 13:18 CDT, 12:18:18 GMT
6/5/73

PAO This is Skylab Control; 18:18 Greenwich mean time. 50 seconds to acquisition at the tracking ship Vanguard. And then there will be a gap of about an hour and 4 minutes before next station, Goldstone. Stand by now for the first Vanguard pass of the afternoon. Skylab Control standing by.

CC Skylab, Houston. AOS for 7 minutes.

SC Roger.

SC Hey, Houston, we just got a S191 ready light.

CC Copy. Can we get an approximate time on that light?

SC Yeah, it was about a minute ago.

SC About 18:19, at which time Bravo 7 was reading 43. We left it on a little longer to see if we'd get a light. And what happened was once they got below about 70 percent - (garble) Once the detector tip got down about 65 you could actually see the needle move. That pointer was really on - really moving on down. As I say, once it got to 43 at the time indicated, then we got a ready light.

CC Copy.

SC Houston, you still there?

CC We're still with you, Pete. Go.

SC Okay, also be advised, we hedged a little more on 191 cooler. We turned it on about - about 2 minutes earlier than the pad called for you. You want to - yeah, we're trying to figure something out, taking that into account too.

CC We copy.

CC Skylab. You're going LOS in a minute.
Goldstone at 19:30.

PAO This is Skylab Control; 18:28 Greenwich mean time. An hour and 2 minutes to Goldstone tracking station, next contact with the ground with the - and the Skylab space station. State of charge on the batteries, currently as of the Vanguard tracking ship pass, 69 percent of total capacity. Apparently successful earth resources survey run over the Continental United States, portions of Central America. Back again in 1 hour for Goldstone and the stateside pass. At 18:29, this is Skylab Control.

END OF TAPE

SL-II MC558/1

Time: 13:50 CDT, 12:19:50 GMT
6/5/73

PAO This is Skylab Control; 18:51 Greenwich mean time. Still 39 minutes or so, away from acquisition at Goldstone. The following is a summary of the private conversation held earlier today with the crew of Skylab. At the request of spacecraft commander Conrad, a private conversation was conducted during the Guam pass between 15:51 and 15:58 Greenwich mean time, on Tuesday June 5. Present for the conversation was Skylab Program Director William C. Schneider, Johnson Space Center Director Dr. Christopher C. Kraft, Jr., Donald K. Slayton, JSC Director of Flight Crew Operations, and Dr. - Dr. Royce Hawkins, Deputy Director of Live Sciences at Johnson Space Center, and Donald Puddy, Flight Director. The conversation was also monitored by public affairs office personnel. The purpose of the conversation was Conrad's desire to discuss with management some interpretations of medical data previously covered with the crew by the flight surgeons. Conrad said he was upset because in his opinion, medical personnel were overly concerned about some data indicating premature ventricular contractions (PVCs) that had been observed earlier in the mission during the M171 ergometer medical experiment on Conrad in the high heat environment of the spacecraft at the time. Conrad had exhibited some premature ventricular contractions during the highest level of the ergometer exercise. At the time, medical personnel diagnosed the condition as something that was consistent with a normal physiological response to the workload and environment that existed. They felt it was of no immediate concern. As a prelude to the EVA plan for Thursday, medical personnel and NASA management felt it would be prudent to confirm the earlier diagnosis of normal response and schedule a second M171 exercise with Conrad for today. Instructions concerning the experiment received by the crew last night, lead Conrad to believe that the medical personnel were overly concerned about the condition. Conrad asked Dr. Kraft for clarification of the medical situation as it was understood on the ground. Reasons for the medical protocol were described by Dr. Kraft. Conrad and Scientist Astronaut Joe Kerwin, the physician onboard, responded by noting that their own evaluation was that the crew - the health of the crew was excellent, both in terms of how Conrad personally felt and as far as Dr. Kerwin's medical diagnosis was concerned. They further said that they wanted to maintain as much exercise as possible to keep themselves in the best condition for reentry and post flight adjustments. Dr. Kraft expressed regret that the crew misunderstood the information provided by medical personnel, and had received the implication that

SL-II MC558/2

Time: 13:50 CDT, 12:19:50 GMT

6/5/73

the ground personnel were overly concerned about their health. Kraft reported that the ground confirmed that the crew was in fact considered to be in excellent health. Conrad replied that he felt better about the situation and had wanted to hear this directly from Dr. Kraft. "We're in super shape," Kerwin added. At 3 p.m. in the Houston News Center, a medical representative will hold forth for a medical briefing. That's 3 p.m. central daylight time, about an hour from now in the Houston News Center. At 18:55 Greenwich mean time, 34 minutes from Goldstone, this is Skylab Control.

END OF TAPE

SL-II MC-559/1

Time: 14:27 CDT, 12:19:27 GET
6/5/73

PAO This is Skylab Control; 19:27 Greenwich
mean time. Two and a half minutes now away from acquisition
at Goldstone, an offshore pass out in the Pacific, 300 or
400 miles, missing the coast of California and Baja Cali-
fornia on revolution 320. Doesn't cross land until the
coast of Chile in South America. Standing by for the final
continental U.S. station's pass. There goes the warbler,
warning flight controllers of acquisition within 2 minutes.
At 19:28 and standing by, Skylab Control.

CC	Skylab, Houston; AOS for 10 minutes.
CC	Skylab Houston; AOS for 10 minutes.
CC	CDR, Houston.
CC	CDR, Houston.

END OF TAPE

SL-II MC560/1

Time: 14:32 CDT, 12:19:32 GMT
6/5/73

CC Skylab, we'll be dumping the tape recorder
in a few minutes over Texas.
SC Houston, CDR.
CC Go, CDR.
SC Okay, would you look at the status of
PTRF 5?
CC Wilco.
SC Never mind it; I took care of it I guess.
I came up here and tried the (garble). Now, never mind
(garble). It is on and - I'm - - not exactly sure what's
going on. Looks all right.
CC Okay. And CDR we have some information
for startracker reacquire after solar inertial.
SC Go ahead.
CC Inner gimble is minus 8; outer gimble
is plus 1324.
SC That's right. You were cut out. Was
that first one minus 0008.
CC That's affirmative.
SC And plus 1324.
CC That's affirmative.
CC And CDR, CBRM 5 looks good to us. It
just hasn't tripped back just before it went into night.
SC Okay.
SC Houston, CDR.
CC Go, CDR.
SC That star is still good from - I've got six
pads, I don't know which one's which. Day 35 to night 07.
CC Pete, apparently we didn't get all
your message. Would you say again?
SC I was just verifying that that stan
good time was still as the original pad this morning, that's in
respect to when it's available.
CC Pete, that pad is good and we're going
LOS here in 1 minute. Vanguard at 19:56.
SC Roger, Houston.
PAO This is Skylab Control; Greenwich mean
time 19 hours 45 minutes. We've had the last stateside pass
for the day as the spacecraft nears the end of it's 320th
revolution. Next pass will be over Vanguard in 11 minutes.
This is Skylab Control; Greenwich mean time 19 hours 45 minutes.

END OF TAPE

SL-II MC561/1

Time: 14:55 CDT, 12:19:55 GMT
6/5/73

PAO 19 hours 55 minutes. We have acquisition at the Vanguard Tracking Station for a 7-1/2 minute pass. We'll hold the line up for conversation between CAPCOM Dr. William Thornton and the Skylab crew.

CC Skylab, Houston. AOS 6 minutes.

SC Roger.

CC CDR, Houston.

SC Go ahead.

CC After a great deal of digging here in the history of the teleprinter, it appears that line 21 on the EREP pad was repeated. And it appears that it can be repeated up to three times, and they say that a line will never be deleted. And it's pretty difficult though to get the history of just what has happened.

SC Okay, I think it's more just that you have thoughts of the other crew's, and they goes through those pads very carefully for double and triple same entries, because if you haven't gone through it and you're running on the time line, it's real easy to trip up over that. (Garble) idea (garble) in ten seconds it's going to (garble).

CC We copy Joe - Pete.

CC And just for information, Pete, we've got a complete on CBRM 5.

SC Roger.

CC PLT, Houston.

SC Go ahead, Houston.

CC Just a reminder before we begin SG19 OPS. We need a lockon on the star.

SC Okay, I'll see if I can find it for you.

CC Copy.

CC Skylab, LOS in 1 minute; Hawaii at 21:04.

SC Roger.

PAO This is Skylab Control; Greenwich mean time 20 hours 5 minutes. We've had loss of signal over the Vanguard Tracking Station with the next acquisition of a signal over Hawaii in 1 hour from now. On the previous stateside pass, Commander Conrad alerted to the ground that he had a BATTERY CHARGE light on number 5 CBRM. However, on this pass he was advised that battery 5 is okay, and everything looks good. This is Skylab Control; Greenwich mean time 20 hours 5 minutes. There will be a press conference in the News Room of building 1 with Dr. Royce Hawkins, Deputy Director of Life Sciences at the Johnson Space Center. This is Skylab Control; 20 hours 6 minutes.

END OF TAPE

SL-II MC-562/1

Time: 16:02 CDT, 12:21:02 GMT
6/5/73

PAO This is Skylab Control, Greenwich mean time 21 hours two minutes. We anticipate acquisition of signal from the Skylab space station as it passes over the Hawaii tracking station on it's 320th revolution. We have Cap Com Dr. William Story, and also at the Cap Com console this afternoon is Rusty Schweickart, Astronaut Rusty Schweickart. We'll leave the line up for any live conversation.

CC Skylab, Houston. AOS six minutes.

CDR Roger, Houston.

CC And Skylab, we'll be dumping the recorder over Vanguard.

CDR Roger, Houston.

CDR Do you have the TV, Houston?

CC Stand by.

CC That's affirm, Pete.

CDR What you guys sending up in the teleprinter? It's swashing and dancing at my feet.

CC Pete that's okay as long as it's only the teleprinter.

CDR Okay, I've got a question for you on the ATM. I didn't get any S054 filter information for building block 13, so I assume you just want to run filter 1 twice. Is that correct?

CC Stand by.

CC Pete, we think you should be in building block 23 which has the information.

CC If you should be in 13, in 13, why then alternate between filters 1 and 3.

CDR I think you're right, I read it wrong. I'm in 13 (garble)

CC We copy.

CC We're going LOS and we'll see you at the Vanguard.

CDR Roger.

PAO This is Skylab Control, 21 hours 11 minutes We have lost signal, Skylab space station with the tracking station at Hawaii. Our next acquisition will be at the Vanguard tracking station 21 minutes from now. Science Pilot Joseph Kerwin is currently performing the M-131 human vestibular function experiment. This is one of the two neurophysiology experiments Doctor Kerwin is conducting during the flight. He is the only one wearing the 133 sleep cap, sleep monitoring experiment. Pilot Paul Weitz is observing as Dr. Kerwin rides the rotating litter chair. Commander Conrad is at the C&D panel of the Apollo telescope mount. With acquisition at Vanguard in 20 minutes, this is Skylab Control, Greenwich mean time 21 hours 12 minutes.

END OF TAPE

SL-II MC-563/1

Time: 16:30 CDT 12:21:30 GMT

6/5/73

PAO This is Skylab control, 21 hours 30 minutes. We expect acquisition of signal over the Vanguard tracking station as the Skylab vehicle concludes its 320th revolution. Capcom is Dr. William Thornton.

CC Skylab, Houston. AOS 10 minutes.

CDR Roger.

CC Pete, we'd like for you to confirm for us that the teleprinter is still legible, and behaving normally.

CDR (garble).

CDR Looks good to me, Bill.

CC Say again.

CC PLT, we're not receiving TV at Vanguard.

PLT Hey, you're getting it now. Seems the TV 19 is OGI only, and we were done with that, so here comes a little MS.

CC Yeah, we're getting it now.

PLT We (garble) away. We just tripped out the chair. We're waiting for a fault light to reset.

CC Copy.

PLT (garble) is 11 set of head movements without interruption in the middle of one symptoms, which is quite a bit more than you've got on the ground.

CC We copy that.

CC We will be LOS in one minute. Hawaii at 22:39.

PAO This is Skylab Control, Greenwich mean time 21 hours 43 minutes. We have had loss of signal at the Vanguard tracking station. Pilot Paul Weitz was describing to the ground a series of tests that Joseph Kerwin was undergoing on the M131 experiment, the vestibular function test. Science Pilot Kerwin was performing the motion sensitivity mode where he sits in the rotating chair, and does a series of prearranged head movements and Weitz reported that Kerwin had completed 11 sets of head motions without any symptoms. Quite a bit more than he has done on the ground. The head movements are continued until either a present value is reached on the response or 30 head movements series are completed. And at this point Science Pilot Kerwin had completed 11 of them. At Greenwich mean time 21 hours 44 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-564/1

Time: 17:38 CDT 12:22:38 GMT
6/5/73

PAO This is Skylab Control, 22 hours
37 minutes Greenwich mean time. We expect acquisition of
the Skylab space station in approximately 1 minute over
the Hawaii tracking station for a pass of 10 minutes in
duration. Capcom Dr. William Thornton is on the console
this afternoon. We anticipate long discussions tonight with
Rusty Schweickart, backup Commander for Skylab II with
the Skylab crew to go over EVA details planned now for
Thursday, June 7th. We'll hold the line up for conversation.

CC Skylab Houston. AOS 10 minutes.

CDR Hi Houston.

CC CDR, Houston. We have a change on
the ATM schedule pad for you.

CDR Go ahead.

CC At 22:22 lines 15, 16 and 17 left,
delete. Those lines are "go to auto sequence hold PRI to
ESS."

CDR I'm not sure I understood you Houston.
I don't see that on my pad.

CC Pete, that's at the bottom of the
pad you're on now. And simply delete "go to auto sequence
hold PRI to ESS."

CDR Oh, okay I'm with you. I thought
you were up at the top.

CDR Let me know when you have the XUV MON.

CC Copy. And we have TV now Pete.

CDR Okay, coming at you (garble).

CDR Say Bill, I have a request to Houston.

CC Go ahead Pete.

CDR We don't normally look at the tele-
printer after we pick up the messages in the morning unless
you tell us there is a message there. And we missed message
1226 Aifa 033 general message M171 today on account of that,
because we had picked up our messages and because we had
such a busy morning nobody was paying any attention to the
teleprinter. Unless you're thinking about it, you don't
even hear it run. And it's my request that any time you
send a message up during the day, would you please tell us
about it by voice at the first opportunity. Otherwise we're
liable to miss it.

CC Wilco Pete.

CDR That's it. Yeah, one of the things
you asked me on the teleprinter, it wasn't until the last pass,
that I bothered even looking (garble) teleprinter nor did
anybody else today.

END OF TAPE

SL-II MC-565/1

Time: 17:45 CDT, 12:22:45 GMT
6/5/73

CC Skylab, Houston. The tape recorder will be dumped over Vandenberg on your next pass. And also, we want the VTR POWER OFF at your convenience. We'll be going LOS in 1 minute. Vanguard at 23:11.

CDR Roger, Houston, that's the VTR POWER is OFF.

CC Canberra, voice control, by the way.

PAO This is Skylab Control 22 hours 50 minutes Greenwich mean time. As the Skylab space station passes over Hawaii, which will be the final - next to the final pass for the day. The next pass one hour from now will be a brief 50 second pass. Next acquisition will be over the Vanguard tracking station. As the crew prepares their evening meals of - Pilot Weitz will be having filet mignon with strawberries and ice cream. Commander Conrad will have prime ribs of beef with potato salad and Science Pilot Kerwin will be having filet mignon with green beans and pears. Scheduled on successive passes later this evening over Vanguard, Ascension, and Guam, we anticipate conversations between the Skylab crew and Cap Com in going over the procedures for the proposed EVA on Thursday. Next acquisition over Vanguard in 20 minutes from now. This is Skylab Control, Greenwich mean time 22 minutes 51 minutes.

END OF TAPE

SL-11 MC-566/1

Time: 18:08 CDT, 12:23:08 GMT
6/5/73

PAO This is Skylab Control, Greenwich mean time 23 hours 9 minutes. As Skylab will - expected to come into acquisition of the Vanguard tracking station. We will leave the line up for conversation between Cap Com Hank Hartsfield and the Skylab crew.

CC Skylab, Houston through Vanguard 8-1/2 minutes.

CDR Hello there, Henry. How are you tonight?

CC Okay, how about yourself?

CDR Super good.

CDR What's going on in the world? We haven't got any news to speak of.

CC Well, it's the same old thing as when you left.

CDR That's good.

CC Skylab, Houston. We're about one minute from LOS. We'll have a real short pass at Hawaii at 23. If we miss that one, we'll be back here at Vanguard at 49.

CDR Okay.

PAO This is Skylab Control, Greenwich mean time 23 hours 19 minutes. We have loss of signal at the Vanguard tracking station. Next acquisition will be over Hawaii one hour and 2 minutes from now. When the spacecraft passes over the Vanguard tracking station again in one hour and 29 minutes, it is anticipated they will have approximately 45 minutes in discussing with the ground review of the proposed EVA for Thursday morning June 7th. At Greenwich mean time 23 hours 20 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-567/1

Time: 18:37 CDT 12:23:37 GMT
6/5/73

PAO This is Skylab Control. Greenwich mean time 23 hours 37 minutes. We have a report following the review of onboard data of Commander Pete Conrad's M171 activity today. The M171 metabolic ergometer experiment was successfully accomplished today by spacecraft Commander, Pete Conrad. Dr. Royce Hawkins, Deputy Director, Johnson Space Center Life Science Director, and Dr. Robert L. Johnson JSC cardiologist and Principle Investigator for Mo92 experiment report Conrad's test today revealed normal cardiovascular activity without any of the premature ventricular contractions seen on Conrad's previous M171 exercise conducted on May 29th. Today's M171 experiment was conducted at the same work load as Conrad's preflight baseline measurements and previous inflight tests. The M171 experiment involved 5 minutes at each of 3 work levels with a recovery period of 5 minutes following the maximum work level. Dr. Hawkins and Dr. Johnson are quoted as saying "We see nothing of medical nature that would preclude Commander from performing the planned EVA on Thursday." This is the end of the medical statement. At Greenwich mean time 23 hours 38 minutes.

END OF TAPE

SL-II MC-568/1

Time: 1859:CDT 12:23:59 GMT

6/5/73

PAO This is Skylab Control, Greenwich
mean time 23 hours 59 minutes. Flight Director Don Puddy,
Flight Director of the Silver Team, is en route to the
Building 1 News Room for a change of shift briefing to
start at 7:00 p. m. central daylight time. This is
Skylab Control 23 hours 59 minutes.

END OF TAPE

SL-II MC-569/1

Time: 19:44 CDT 13:00:44 GMT
6/5/73

PAO This is Skylab Control. Greenwich mean time 00:44 minutes. During the change of shift briefing with Flight Director Don Puddy, we had a pass over the Hawaii tracking station, a very brief pass for 56 seconds. We'll play that tape and during this LOS period, astronaut Rusty Schweickart has been describing to the flight controllers in the Mission Control Center a TV clip of operations he and Ed Gibson performed in the neutral buoyancy facility at the Marshall Space Flight Center on the various modes of the EVA to be carried out by the Skylab crew on Thursday. We'll bring up that Hawaii pass and stand by for discussions between Rusty Schweickart and the crew on the EVA review scheduled to begin at the Vanguard pass.

CC Skylab Houston through Hawaii for a minute or so.

CDR Roger Houston.

CC Skylab Houston. The clock shows about 10 seconds from LOS. Vanguard will be next 49 for a data recorder dump.

CDR Roger, Roger.

CC And we'll have some EVA words there too.

CDR Okay, we've got a whole bunch of gear laid out here already.

PAO This is Skylab Control with acquisition at Vanguard shortly. We'll hold the line up for a 10 minute pass over Vanguard.

CC Skylab Houston at Vanguard. How do you read?

CDR Okay, Roger.

CDR Well, Rusty we've assembled all the bits and pieces and we do have a few questions. Have you got anything for us first?

SCHWEICKART Okay, we're ready for your questions and we've got some additional data for you. Let me just say that Ed Gibson has been honchoing most of the hardware assembly and that kind of stuff, so he's here to answer those questions.

CDR Okay, we finally figured out the brass rod trick. And our question is, how far from the mushroom down the pole do you rig it?

MCC Okay, just above the locking nut - you need it right down near the end, and that way you've got enough slack in the line to put it over your head if you want to, that is run the line over your helmet behind you, and you can still cinch it down to the line, to the end of the pole.

CDR You lost me there.

SL-II MC-569/2

Time: 19:44 CDT 13:00:44 GMT
6/5/73

MCC Pete, I think your question was how far do you put that double prong tool from the mushroom. Is that your question?

CDR That's the question.

MCC Yeah. That you can put right down next to the mushroom, as long as you've got the - on the rod and you need the double prongs away from the mushroom so that you can put the rope underneath it and use that as a - wedge your rope underneath it and use it as a cleat. The whole objective there is just to find a way of securing that rope taut once you're out there.

CDR Okay, the rope is attached to the clippers.

MCC That's right so you're going to take and tape one rope, the one coming down from the cutters so you know which one to pull on. Once you get out there and hook it over the strap and pull it taut, then you want to have it stay tight while EV 1 goes down the five poles. So the objective there is to have something right close to the mushroom which you can wrap the rope around and have a little friction locking device for the rope, just like a cleat.

CDR Okay, now we took the hose clamp off the thing and it's barely going to make it. Ours may not be quite the same as yours, and it didn't have enough serrations in it to screw it, I don't think, all the way tight. We'll get it as tight as we can. And then you've got the 2 prongs are perpendicular to the pole with the attached ends pointed towards the mushroom. Is that correct?

MCC That's right. The attached end towards the mushroom. And you've got several options there to make it tighter. You can wrap a little tape around it or some of that safety w're. Probably tape would do it, give you a little extra circumference there and it would just tighten down on the clamp.

CDR Okay.

MCC And also if that does not look as though it's tight enough Pete, if you look on the regulator on the MC92, right - the big black hose coming off the back of the regulator, there's a smaller hose clamp there and you might want to look at using that one.

CDR Okay.

END OF TAPE

SL-II MC-570/1

Time: 19:52 CDT 13:00:52 GMT

6/5/73

MCC -hose coming of the back of the regulator, there's a smaller hose clamp there and you might want to look at using that one.

CDR Okay. Joe's got one for you.

SPT Well, yes, when you add the 24 feet to the clipper rope, are we running an endless rope down to the crewman end of the pole, or just one rope?

MCC No, you're running an endless rope, but your option is to where you want to cut it. All you really need though is something which will reach down to the mushroom and it's your choice as to whether once you're out there, you want to loop the rope over you and behind you, or whether you just want to keep it right out - all out in front of you. We gave you an extra 4 feet there from what you'd really need if you just added 10 foot with the pole. I think you may want to assemble that gear and figure out exactly how you're going to use it, make those lengths fit what you want. We gave you what we felt was the maximum you could ever use.

SPT I'd like to hear a very brief discription of your technique. EVA and assembling the pole and handling the rope and a little curious what after the work site.

MCC Okay, I'll tell you what. We got some things here which we'd like to amplify. Our description - Rusty's got a whole host of things here to give you a general idea of some of the things not included in the pad, and I'd like to just start at A and B and amplify some of those items rather quickly, and then Rusty will hit the details of the EVA procedures himself.

SPT GO.

MCC Okay, first to let you know what the schedule is, as you see on the pad you got, we got a EVA sim tomorrow morning. The main objective of that is to assemble the parts, cut and tie the ropes. After you get all of that done and assembled, you can maneuver them around in there, hook it to the floor grid from the aft compartment of the airlock, you know, to simulate grabbing something 25 feet away. And we've got two real time TV capabilities there plus the VTR and if you got a pencil, I'll give you the AOS on the real time TV.

SPT Go ahead.

MCC Those - Okay 15:33 to 15:49 and on the next rev you got 17:10 to 17:26. At that time you should - we're picking up real time TV and you can show us anything you got a question on or uncertainty about. Show us a better idea you came up with or whatever. In any case you can show us what you got, and we'll be glad

SL-II MC-570/2

Time: 19:52 CDT 13:00:52 GMT
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to answer any questions.

CDR Okay, we've got all the gear assembled in the experiment upper area right now. And we were just in the process of putting it together and talking it over. Go ahead.

MCC Okay, on Wednesday evening, then, you got, as I say, you got 3 hours tomorrow morning for fooling around, then Wednesday evening we're doing most of the EVA prep that we can do, in order to shorten the prep on Thursday morning.

CDR (garble)

MCC Okay, also, of course, tomorrow morning after you get a look at the use of this stuff we would like your evaluation on it, and if there's any reason that you feel you'd like to have a longer time, like run it on Friday or something, just let us know and that's within the scheme of things.

CDR Okay.

MCC The nominal plan, however on Wednesday evening you'd be prepping for the EVA and stowing the airlock, positioning the suits and the ALSA and all that. On Thursday morning, we have a normal wakeup time. We got about 2 hours and 50 minutes for final prep. And then we've got schedule blocked out four hours to the EVA. The plan is to open the hatch at sunset, which then gives you on the order of 30 minutes to do the initial work in the lighted area, in the FAS and around the FAS and around the discene antenna. This then will give us a maximum capability for going down the side of the workshop and getting the SAS beam up during the full daylight pass. So the nominal hatch open on the EVA will be Thursday morning, 15:37 Zulu. Okay, we also have some additional EVA tasks which we have not talked about yet, but which I know you're aware of. They number 4. The first one is to pin open the S054 door so that we can go back to a nominal operation on the auto door. The second one is to retrieve and replace the S082A film. That will be low priority, that is, we will do that only if everything else goes okay and you feel that you're in good enough shape to go on out and do that, but we do have plans to go ahead and stow the S082A film in the aft compartments so that you can go on down to the Sun end and take care of that.

SPT What's wrong with the 82A film?

MCC Okay, this is the 82A which has some indication of the camera not working at this time, and they would like to replace the 82A magazine.

SPT Oh, well that's the first we heard of

RL-II MC-570/3

Time: 19:52 CDT 13:00:52 GMT
6/5/73

that, Rusty, Okay.

MCC Okay, this is related to your continuous operate light. The third - and the frame counter - The third item is to observe and do some television of the parasol geometry and condition, and also the SAS panels after the beam is up. We will therefore be planning to include the television camera and a 30 foot cable in the lock compartment and again, following the successful SAS beam deployment, we'll go down and take a look at the good job you did. Okay, and the fourth one, which is a relatively minor one, is to get a good look at the CSM quad A and Pete, we're working out the geometry, but it looks as though you can do that from the FAS foot restraints, just looking right through the trusses.

CDR What's the matter with Quad A?

MCC The temperatures appear to be running anomalously high on it. And we're at this moment 18 seconds from LOS at Vanguard, and we'll see you again at Ascension here. Standby I'll give you the time. Okay it'll be 03 at Ascension.

CDR 03 at Ascension. One of the questions I want answered is where this pin is on the antenna?

MCC Okay, fine. We'll give you the description of that.

CDR Okay.

PAO This is Skylab Control, Greenwich mean time 00:59 minutes. Astronaut Rusty Schweickart describing to Commander Pete Conrad the assembly procedures necessary to put the EVA gear together for the proposed EVA on Thursday. to repair the orbital workshop solar array panel. Astronaut Schweickart told the crew they would have two live passes on Wednesday, during which time the crew can show the ground the assembled gear and answer any further questions. These passes will be at 10:33 a. m. on Thursday morning, and 12:10 noon. (garble) that. That's 10:33 a.m. Wednesday and 12:10 p. m. central daylight time, Wednesday. We have another pass over Ascension in approximately 2 minutes. We'll hold the line up for that pass.

END OF TAPE

SL-II MC-571/1

Time: 20:01 CDT, 13:01:01 GMT

6/5/73

CC Skylab, Houston at Ascension.
SPT Okay, Houston. Rusty are you ready for your 30 seconds? I want to pass on that Paul has had a apparent failure of his urine separator to perform properly. It does not develop any suction in the receiver, and in the absence of further clues and he plans to change out the separator. Now, go ahead.

CC Okay, we got that and before we start on the EVA, let me give you a star tracker pad.

SPT (Garble)

CC Okay, the star is - -

CC Okay, are you ready to copy the star tracker pad?

SPT Yep.

CC Okay, the star is Achernar. And it's 52012, 50,000. It's available day 40 plus 00 to night 0900; outer gimbal is plus 1422; inner gimbal plus 0007; and that's valid day 157 0000 to 1000.

SPT (Garble)

CC Okay, you got it?

CC Okay. - -

SPT (Garble)

CC Okay, here we go. If you - let me just tell you what's coming up quickly tonight. We're sending up additional data related to the prep and post, related to the ATM configuration and re-configuration afterward. You recognize that we are now not on day-26 where we configured just to a POWER DOWN, but we will be reconfiguring after the EVA to normal operation, so that means a change in the checklist, there. We'll be drying the LCC's instead of trashing them. We are planning to use the aft airlock compartment - that is, using the OWS hatch and therefore the things that were struck from the checklist which relegated us only to the lock compartment, will be rescinded and you'll see that. And we'll also have some additional procedures for Paul to read for EV-3 to read to perform the 2054 door opening. The 82-A change-out and television that I mentioned. And Ed would like to go ahead with some of the assembly details here on the equipment.

MCC Okay, just a note before we start on this. You may have noticed that all throughout the procedures is a not a consistent level of detail. And what we've done is specify the detail when we feel it'd save you time and effort outside. The important on the see judgements such as umbilical management, avoidance of sharp edges, or avoidances of S-IVB skin damage, we've not attempted to detail. We'd like your feelings also, afterwards on what level of detail you'd like for the extra four tasks which we've specified. We can give

SL-II MC-571/2

Time: 20:01 CDT, 13:01:01 GMT

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you a good level of detail on the teleprinters if you feel you need it.

CDR Ed, if you want this whole thing from one end to the other. Or if you're going to (garble)

MCC Yeah, we've worked it from one end to the other. I've worked it twice in the water and Rusty's gone through it three times.

SC I'm talking about doing S082-B and looking at the quad and so forth and so on, and put all of this TV and this stuff in the airlock. It sounds to me like we're getting Fibber McGee and Molly's closet in there, but that's a (garble)

MCC No, we'll have a - Scott's been working that end of it and says it can be done if you open up the aft airlock.

SPT Go ahead with your procedural notes there.

MCC Okay, on item A. The length of those ropes. We've allowed some time for not some extra space in there for knot tying, and I suggest what you do is figure out functionally what each one of those ropes is going to do and run yourself a little C-square, S-square to fit it to how you really want to operate it. Down there on item five we call off six five-foot EVA sail rods, that's five rods we'll actually use. We've got one backup. We have three SEVA rods left and two extra sail rods, so we're not digging into the double pole sunshade rods. However, we're going to bring all five of those back in, so we'll still have them left. Item 17, SEVA shepherd hook. That's not mentioned anywhere from here on out and the EVA is strictly as a backup to the cutters. In case we have problems hooking the cutters over a strap and securing a good translation path down to the strap, we can use the shepherd hook and you have to retract the five rods, get down to the airlock, get the shepherd hook, put it on, and then run it along the - underneath the beam and you'll pick up about once every foot and a half, a location that'll hold. However, you'd have to keep tension on the pole at that point because otherwise you'd lose it.

SPT How would you keep tension on the pole?

MCC Well, EV-2 has to hold tension on the pole all the way. We don't recommend that but it is a backup method in case you have problems, with the cutter method.

SPT What is EV-2's security?

END OF TAPE

SL-11 MC-573/1
Time: 20:27 CDT, 13:01:27 GMT
6/5/73

PAO This is Skylab Control, Greenwich mean
time 1 hour 27 minutes. In the previous Ascension pass
the crew was asked to - one of the extra details they were
asked to do during the EVA was to take a look at Quad-A. Quad-
A is the service reaction control system on the service module
and Quad-A is one of four quads on the vehicle. And they
could make a visual inspection by standing up in the FAS EVA
station. FAS is the fixed airlock shroud in the airlock module.
Quad-A is currently about 20 degrees higher than normal. Nor-
mally the quad is registering at about 60 degrees, in the mid-
sixties. Current readings show it at about in the mid-80's.
The crew will be asked to make a visual inspection at the
close of the EVA. At Mission Control Center, Skylab Control,
this is Greenwich mean time 1 hour 28 minutes. Next acquisi-
tion over the Guam tracking station in 20 minutes. Skylab
Control 1 hour 28 minutes.

END OF TAPE

SL-II MC-569/1

Time: 19:44 CDT 13:00:44 GMT

6/5/73

PAO This is Skylab Control. Greenwich mean time 00:44 minutes. During the change of shift briefing with Flight Director Don Puddy, we had a pass over the Hawaii tracking station, a very brief pass for 56 seconds. We'll play that tape and during this LOS period, astronaut Rusty Schweickart has been describing to the flight controllers in the Mission Control Center a TV clip of operations he and Ed Gibson performed in the neutral buoyancy facility at the Marshall Space Flight Center on the various modes of the EVA to be carried out by the Skylab crew on Thursday. We'll bring up that Hawaii pass and stand by for discussions between Rusty Schweickart and the crew on the EVA review scheduled to begin at the Vanguard pass.

CC Skylab Houston through Hawaii for a minute or so.

CDR Roger Houston.

CC Skylab Houston. The clock shows about 10 seconds from LOS. Vanguard will be next 49 for a data recorder dump.

CDR Roger, Roger.

CC And we'll have some EVA words there too.

CDR Okay, we've got a whole bunch of gear laid out here already.

PAO This is Skylab Control with acquisition at Vanguard shortly. We'll hold the line up for a 10 minute pass over Vanguard.

CC Skylab Houston at Vanguard. How do you read?

CDR Okay, Roger.

CDR Well, Rusty we've assembled all the bits and pieces and we do have a few questions. Have you got anything for us first?

SCHWEICKART Okay, we're ready for your questions and we've got some additional data for you. Let me just say that Ed Gibson has been honchoing most of the hardware assembly and that kind of stuff, so he's here to answer those questions.

CDR Okay, we finally figured out the brass rod trick. And our question is, how far from the mushroom down the pole do you rig it?

MCC Okay, just above the locking nut - you need it right down near the end, and that way you've got enough slack in the line to put it over your head if you want to, that is run the line over your helmet behind you, and you can still cinch it down to the line, to the end of the pole.

CDR You lost me there.

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MCC Pete, I think your question was how far do you put that double prong tool from the mushroom. Is that your question?

CDR That's the question.

MCC Yeah. That you can put right down next to the mushroom, as long as you've got the - on the rod and you need the double prongs away from the mushroom so that you can put the rope underneath it and use that as a - wedge your rope underneath it and use it as a cleat. The whole objective there is just to find a way of securing that rope taut once you're out there.

CDR Okay, the rope is attached to the cutters.

MCC That's right so you're going to take and tape one rope, the one coming down from the cutters so you know which one to pull on. Once you get out there and hook it over the strap and pull it taut, then you want to have it stay tight while EV 1 goes down the five poles. So the objective there is to have something right close to the mushroom which you can wrap the rope around and have a little friction locking device for the rope, just like a cleat.

CDR Okay, now we took the hose clamp off the thing and it's barely going to make it. Ours may not be quite the same as yours, and it didn't have enough serrations in it to screw it, I don't think, all the way tight. We'll get it as tight as we can. And then you've got the 2 prongs are perpendicular to the pole with the attached ends pointed towards the mushroom. Is that correct?

MCC That's right. The attached end towards the mushroom. And you've got several options there to make it tighter. You can wrap a little tape around it or some of that safety wire. Probably tape would do it, give you a little extra circumference there and it would just tighten down on the clamp.

CDR Okay.

MCC And also if that does not look as though it's tight enough Pete, if you look on the regulator on the M092, right - the big black hose coming off the back of the regulator, there's a smaller hose clamp there and you might want to look at using that one.

CDR Okay.

END OF TAPE

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MCC -hose coming of the back of the regulator, there's a smaller hose clamp there and you might want to look at using that one.

CDR Okay. Joe's got one for you.

SPT Well, yea, when you add the 24 feet to the clipper rope, are we running an endless rope down to the crewman end of the pole, or just one rope?

MCC No, you're running an endless rope, but your option is to where you want to cut it. All you really need though is something which will reach down to the mushroom and it's your choice as to whether once you're out there, you want to loop the rope over you and behind you, or whether you just want to keep it right out - all out in front of you. We gave you an extra 4 feet there from what you'd really need if you just added 10 foot with the pole. I think you may want to assemble that gear and figure out exactly how you're going to use it, make those lengths fit what you want. We gave you what we felt was the maximum you could ever use.

SPT I'd like to hear a very brief discription of your technique. EVA and assembling the pole and handling the rope and a little curious what after the work site.

MCC Okay, I'll tell you what. We got some things here which we'd like to amplify. Our description - Rusty's got a whole host of things here to give you a general idea of some of the things not included in the pad, and I'd like to just start at A and B and amplify some of those items rather quickly, and then Rusty will hit the details of the EVA procedures himself.

SPT GO.

MCC Okay, first to let you know what the schedule is, as you see on the pad you got, we got a EVA sim tomorrow morning. The main objective of that is to assemble the parts, cut and tie the ropes. After you get all of that done and assembled, you can maneuver them around in there, hook it to the floor grid from the aft compartment of the airlock, you know, to simulate grabbing something 25 feet away. And we've got two real time TV capabilities there plus the VTR and if you got a pencil, I'll give you the AOS on the real time TV.

SPT Go ahead.

MCC Those - Okay 15:33 to 15:49 and on the next rev you got 17:10 to 17:26. At that time you should - we're picking up real time TV and you can show us anything you got a question on or uncertainty about. Show us a better idea you came up with or whatever. In any case you can show us what you got, and we'll be glad

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to answer any questions.

CDR Okay, we've got all the gear assembled in the experiment upper area right now. And we were just in the process of putting it together and talking it over. Go ahead.

MCC Okay, on Wednesday evening, then, you got, as I say, you got 3 hours tomorrow morning for fooling around, then Wednesday evening we're doing most of the EVA prep that we can do, in order to shorten the prep on Thursday morning.

CDR (garble)

MCC Okay, also, of course, tomorrow morning after you get a look at the use of this stuff we would like your evaluation on it, and if there's any reason that you feel you'd like to have a longer time, like run it on Friday or something, just let us know and that's within the scheme of things.

CDR Okay.

MCC The nominal plan, however on Wednesday evening you'd be prepping for the EVA and stowing the airlock, positioning the suits and the ALSA and all that. On Thursday morning, we have a normal wakeup time. We got about 2 hours and 50 minutes for final prep. And then we've got schedule blocked out four hours to the EVA. The plan is to open the hatch at sunset, which then gives you on the order of 30 minutes to do the initial work in the lighted area, in the FAS and around the FAS and around the discone antenna. This then will give us a maximum capability for going down the side of the workshop and getting the SAS beam up during the full daylight pass. So the nominal hatch open on the EVA will be Thursday morning, 15:37 Zulu. Okay, we also have some additional EVA tasks which we have not talked about yet, but which I know you're aware of. They number 4. The first one is to pin open the S054 door so that we can go back to a nominal operation on the auto door. The second one is to retrieve and replace the S082A film. That will be low priority, that is, we will do that only if everything else goes okay and you feel that you're in good enough shape to go on out and do that, but we do have plans to go ahead and stow the S082A film in the aft compartments so that you can go on down to the Sun end and take care of that.

SPT What's wrong with the 82A film?

MCC Okay, this is the 82A which has some indication of the camera not working at this time, and they would like to replace the 82A magazine.

SPT Oh, well that's the first we heard of

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that, Rusty, Okay.

MCC Okay, this is related to your continuous operate light. The third - and the fram. counter - The third item is to observe and do some television of the parasol geometry and condition, and also the SAS panels after the beam is up. We will therefore be planning to include the television camera and a 30 foot cable in the lock compartment and again, following the successful SAS beam deployment, we'll go down and take a look at the good job you d.d. Okay, and the fourth one, which is a relatively minor one, is to get a good look at the CSM quad A and Pete, we're working out the geometry, but it looks as though you can do that from the FAS foot restraints, just looking right through the trusses.

CDR What's the matter with Quad A?

MCC The temperatures appear to be running anomalously high on it. And we're at this moment 18 seconds from LOS at Vanguard, and we'll see you again at Ascension here. Standby I'll give you the time. Okay it'll be 03 at Ascension.

CDR 03 at Ascension. One of the questions I want answered is where this pin is on the antenna?

MCC Okay, fine. We'll give you the description of that.

CDR Okay.

PAO This is Skylab Control, Greenwich mean time 00:59 minutes. Astronaut Rusty Schweickart describing to Commander Pete Conrad the assembly procedures necessary to put the EVA gear together for the proposed EVA on Thursday. to repair the orbital workshop solar array panel. Astronaut Schweickart told the crew they would have two live passes on Wednesday, during which time the crew can show the ground the assembled gear and answer any further questions. These passes will be at 10:33 a. m. on Thursday morning, and 12:10 noon. (garble) that. That's 10:33 a.m. Wednesday and 12:10 p. m. central daylight time, Wednesday. We have another pass over Ascension in approximately 2 minutes. We'll hold the line up for that pass.

END OF TAPE

SL-11 MC-571/1

Time: 20:01 CDT, 13:01:01 GMT
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CC Skylab, Houston at Ascension.

SPT Okay, Houston. Rusty are you ready for your 30 seconds? I want to pass on that Paul has had a apparent failure of his urine separator to perform properly. It does not develop any suction in the receiver, and in the absence of further clues and he plans to change out the separator. Now, go ahead.

CC Okay, we got that and before we start on the EVA, let me give you a star tracker pad.

SPT (Garble)

CC Okay, the star is - -

CC Okay, are you ready to copy the star tracker pad?

SPT Yep.

CC Okay, the star is Achernar. And it's 52012, 50,000. It's available day 40 plus 00 to night 0900; outer gimbal is plus 1422; inner gimbal plus 0007; and that's valid day 157 0000 to 1000.

SPT (Garble)

CC Okay, you got it?

CC Okay. - -

SPT (Garble)

CC Okay, here we go. If you - let me just tell you what's coming up quickly tonight. We're sending up additional data related to the prep and post, related to the ATH configuration and re-configuration afterward. You recognize that we are now not on day-26 where we configured just to a POWER DOWN, but we will be reconfiguring after the EVA to normal operation, so that means a change in the checklist, there. We'll be drying the LCG's instead of trashing them. We are planning to use the aft airlock compartment - that is, using the OWS hatch and therefore the things that were struck from the checklist which relegated us only to the lock compartment, will be rescinded and you'll see that. And we'll also have some additional procedures for Paul to read for EV-3 to read to perform the S054 door opening. The 82-A change-out and television that I mentioned. And Ed would like to go ahead with some of the assembly details here on the equipment.

MCC Okay, just a note before we start on this.

You may have noticed that all throughout the procedures is a not a consistent level of detail. And what we've done is specify the detail when we feel it'd save you time and effort outside. The important on the see judgements such as umbilical management, avoidance of sharp edges, or avoidances of S-1VB skin damage, we've not attempted to detail. We'd like your feelings also, afterwards on what level of detail you'd like for the extra four tasks which we've specified. We can give

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you a good level of detail on the teleprinters if you feel you need it.

CDR Ed, if you want this whole thing from one end to the other. Or if you're going to (garble)

MCC Yeah, we've worked it from one end to the other. I've worked it twice in the water and Rusty's gone through it three times.

SC I'm talking about doing S082-B and looking at the quad and so forth and so on, and put all of this TV and this stuff in the airlock. It sounds to me like we're getting Fibber McGee and Molly's closet in there, but that's a (garble)

MCC No, we'll have a - Scott's been working that end of it and says it can be done if you open up the aft airlock.

SPT Go ahead with your procedural notes there.

MCC Okay, on item A. The length of those ropes. We've allowed some time for not some extra space in there for knot tying, and I suggest what you do is figure out functionally what each one of those ropes is going to do and run yourself a little C-square, S-square to fit it to how you really want to operate it. Down there on item five we call off six five-foot EVA sail rods, that's five rods we'll actually use. We've got one backup. We have three SEVA rods left and two extra sail rods, so we're not digging into the double pole sunshade rods. However, we're going to bring all five of those back in, so we'll still have them left. Item 17, SEVA shepherd hook. That's not mentioned anywhere from here on out and the EVA is strictly as a backup to the cutters. In case we have problems hooking the cutters over a strap and securing a good translation path down to the strap, we can use the shepherd hook and you have to retract the five rods, get down to the airlock, get the shepherd hook, put it on, and then run it along the - underneath the beam and you'll pick up about once every foot and a half, a location that'll hold. However, you'd have to keep tension on the pole at that point because otherwise you'd lose it.

SPT How would you keep tension on the pole?

MCC Well, EV-2 has to hold tension on the pole all the way. We don't recommend that but it is a backup method in case you have problems, with the cutter method.

SPT What is EV-2's security?

END OF TAPE

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GIBSON We don't recommend that, but it is a backup method in case you have problems with the cutter method.

SPT What if EV 2 secures the near end of the pole under the normal circumstances?

GIBSON We've got a waist tether put on there which has got the large Apollo hook between the mushroom and the double prong tool, and the other end with the small Apollo hook fits down into that same pin at the base of the discone antennae. That pin was used to hold a - to hold the top part of the discone antennae during launch. When you approach that area you will notice the pin down on your lower right if you have the discone antennae going up straight from your foot to your head. In other words if your head is up - no your axis is along the discone antennae and your head pointed towards the end of it, you'll notice right in the FAS reef ring, about a foot and a half down, a small pin. It's about one of the only things you've got around that you can tether on.

SPT Okay, can we use the discone antennae as a handhold?

GIBSON You can, you can put something like - 4 foot up - about 40 pounds or so.

SCHWEIKART That's a factor of safety too, at that point.

SPT Okay.

MCC Okay, other straps or restraints. You may want to come up with other ways of bundling loose rope for ingress. We've not tried to call that out. You can either use bungees, straps or even take out tape if you desire. Spares, it's your choice as to whether you want to take out more than one extra rod, an extra pinch bar, or extra tape.

SPT Okay.

MCC Okay, in the assembly of the gear, there is two major pieces of hardware, the cutter, you should have 5 poles, and a BET. Item 1, we put the tape on the jaw in order to protect the skin of the SIVB as you're sliding that down there. Item 2, the two prong pole, the tool, I think we've discussed using that as a cinching tool. Item 3, it's your choice as to how you put those sail rods together. Rusty and I used it like you use tape and put it together like a hamel belt. However, seeing that you folks will be putting that back into the airlock and then having to go back out again, we recommend that you use bungees or springs or some other method which will allow you to repack it on ingress and keep it all tied down

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tight.

SPT Are you talking about the rope that's on the cutter?

MCC We're talking about the EVA sail rods at that point, and how you bundle those and keep them secured and you know bundled in the airlock before you go out. It will look real good.

SPT Okay. Press on.

MCC Okay. Item 4, the assembly of the BET. You'll have to - that 6 foot rope - you should allow it to slide through the 32-foot rope so that the load is distributed equally on the 6 foot rope. You may want to tie knots around 6 inches or so on each side of the center of the 6 foot rope. That gives you an ease of handling, that is the 6 foot rope won't slide through one way or the other all the way. And it also prevents large changes of length if a small hook slips out while you are putting tension on the BET. That's your own discretion.

SPT Okay, we understand all that.

MCC Okay we're coming up to 20 minutes, 20 seconds to LOS. Do you have any questions before we go over the hill?

SPT I'm curious what position the two of you took when you put the rod together?

MCC Okay Joe, we're going to have to hit that tomorrow during the 3 hour period. You've got Guam at 49 coming up with the evening status report. We'll see you tomorrow morning.

SPT Roger.

PAO This is Skylab Control. Greenwich mean time 1 hour 13 minutes. Over the Ascension pass just concluded, astronaut Ed Gibson, backup Science Pilot for Skylab II, went over the assembly instructions for the various tools the Skylab crew will use to help deploy the stuck solar wing panel of the orbital workshop. He reminded the crew other procedures will have to be changed at the close of the EVA. EVA procedures onboard the spacecraft for day 26 of the mission that would have been a normal EVA to retrieve film from the Apollo telescope mount. At the close of that EVA certain portions of the crew equipment would have been disposed of in the trash airlock. Since the crew will have to go EVA another time to retrieve the Apollo Telescope film, they will dry the LCG, the liquid cool garment the crew will wear when they go out into space atmosphere again. So, on 2 successive passes over Vanguard and Ascension, a total of 19 minutes of assembly instructions

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the Skylab space repair crew will get ready for another day of activity discussing with Rusty Schweickart and Ed Gibson tomorrow morning further details on the EVA. Next pass over Guam in 34 minutes. This is Skylab Control. Greenwich mean time 1 hour 14 minutes.

END OF TAPE

SL-II MC-573/1

Time: 20:27 CDT, 13:01:27 GMT

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PAO This is Skylab Control, Greenwich mean time 1 hour 27 minutes. In the previous Ascension pass the crew was asked to - one of the extra details they were asked to do during the EVA was to take a look at Quad-A. Quad-A is the service reaction control system on the service module and Quad-A is one of four quads on the vehicle. And they could make a visual inspection by standing up in the FAS EVA station. FAS is the fixed airlock shroud in the airlock module. Quad-A is currently about 20 degrees higher than normal. Normally the quad is registering at about 60 degrees, in the mid-sixties. Current readings show it at about in the mid-80's. The crew will be asked to make a visual inspection at the close of the EVA. At Mission Control Center, Skylab Control, this is Greenwich mean time 1 hour 28 minutes. Next acquisition over the Guam tracking station in 20 minutes. Skylab Control 1 hour 28 minutes.

END OF TAPE

SL-II MC-574/1

Time: 20:47 CDT, 13:01:47 GMT
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PAO - Guam Island tracking station. During this pass is the standard scheduled evening status report by Commander Pete Conrad. The report consists of the meals the crew ate for the day and also the crew will answer questions passed up to them by teleprinter from the flight controllers here at Mission Control Center. We'll hold the line up for air-to-ground conversations with the Skylab crew.

CC Skylab, Houston through Guam for seven minutes.

SC Hello.

CDR Hello, Henry we're up to urine separators EVA gear (garble) just a second and I'll give you the evening status report.

CC Okay.

CDR Okay, Hank, the CDR ate everything plus two butter cookies plus eight optional salts.

CC Skylab, for info we're going to be commanding - or swapping the mission timers in the ATM DC so we can update timer B. It seems to be drifting.

CDR Okay.

CDR The SPT didn't eat his catsup with breakfast because it's spoiled and he ate everything else except item (garble) on the snack, orange drink. He had a total DELTA H2O of plus one and no optional salts. The PLT ate everything today except item 62 under snacks, coffee with sugar. He had seven optional salts. Okay the photo log for day 166. We had an M151-1 with CIOH - excuse me - CIO4, 23, MT01. Now, transporter 04 jammed during the M151-1 and we finished that on transporter 02. And transporter 02 for the M151-1 is CIO5 with now 60 remaining, CIO1. EREP we had a BH01, 80; and the M131-1 SPT was a CIO3 and we ran her out SP10 and it's empty; 35 millimeter we had a CI3405, a CI2631; 70 millimeter CX06 10; the ETC 119 EREP set Oscar 6707, 6043, 6918, 6914, 0455, 7774, and our configuration of drawer A is 02 CIO5 60 CIO1; A-2 is an 02 ZIO3 00 MT10; A-3 is an 04 CIO4 25 Mike Tango 01. And Mike Tango 01 transporter 04 is the one that's jammed. Floating is transporter 05 CI25 100 percent MT11. We had no deviations from the flight plan. The stowage is changed considerably in that we have all that EVA gear spread out on topside and we're in a fixed state of flux at the moment. And the inoperable piece of equipment which we are working on is the PLT urine separator and we're in the process of changing the filter at this time.

CC Roger, did you run the malf procedure on that?

CDR What malf procedure?

CC Roger, that's (garble) waste for number six.

CDR Say again.

CC Waste six.

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CC Okay, we've got a few other things for you. Just so you're not surprised, we're going to be uplinking tonight a POWER-DOWN procedure for the EVA to minimize the power consumption during the EVA. And we'd like to apologize for the SO82-A thing we hit you with tonight. That's sort of been working behind the lines here and I guess we were kind of waiting until we had a full storage. It seems that the combination of the frames remaining not working and the OPERATE light on all the time - We thought that the camera was working, all the indications were good, but somebody tracked down a single point failure where you'd have all those indications and the camera wouldn't be working so we thought that the safest thing to do would be to change it out while we're out on the EVA. Also just so we can kind of update you here, we've got a system status in work and what we're going to do is uplink as soon as possible a complete picture of all the systems in here. Things we think you ought to know. And also, one more item, the AM coolant loop, you know we've been bringing up the primary loop every night, well, it seems that we've reached a point where this is not doing any good so we're going to operate on the secondary loop tonight and with automatic switchover ENABLE. And that will be to conserve power.

CDR Okay. I gathered because we're at zero-beta that we've gotten to our lowest thermal conditions, is that correct?

CC We don't think that's it. I think we've just about reached thermal equilibrium, Pete, is what the story is there on the coolant loop.

CDR Gee, you wouldn't think it'd take it this long for the vehicle to stabilize.

CC That's affirmative.

CDR Okay, now, as beta angle goes back up you think it's going to stay at this temperature?

CDR Pay us no mind. Let us know later.

CDR Still there, Houston?

CC Skylab, Houston. We've got about one minute to LOS. Vanguard's coming up at 26:00 for your medical conference.

CDR Okay.

CC Pete, before we lose out here, the general consensus here is that we're going to get a little cooler as the beta goes up because it looks like you'll be radiating more to space rather than to the Earth with a high albedo.

CDR Caught me in midstream. I thought you'd left and I was halfway between here and there. Rog. thank you.

CDR Are you still there, Houston?

CC That's affirmative.

CDR Okay, systems housekeeping CM-4 is complete.

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Fuel cells did purge.

CC

Roger, copy.

PAO

This is Skylab Control, Greenwich mean time one hour 57 minutes. We've had loss of signal over the Guam Island tracking station. Next pass will be over Vanguard in 28 minutes. During the previous pass Cap Com, Hank Hartsfield discussed with the crew the change-out of the S082-A camera. This came as a surprise to Commander Conrad earlier on the last pass when they advised him he would have to do that work during the EVA, but it turns out that the frame counter on the S082-A and the signal light on the camera have all been not performing properly, so the ground is taking the position, change the camera out completely while the crew is outside. This is one of the tasks which would have been accomplished on day 26 during a normal EVA. Skylab Control at one hour 58 minutes with next pass over Vanguard in 27 minutes.

END OF TAPE

SL-II MC-575/1

Time: 21:24 CDT 13:02:24 GMT
6/5/73

PAO This is Skylab Control, Greenwich mean time 2 hours 24 minutes, anticipating acquisition over the Vanguard tracking station, for one of the final AOS's for the crew tonight. Next pass will be over Ascension, at which time the crew will more than likely bid goodnight for the day. We'll hold the line up in the event of conversation between Capcom, Hank Hartsfield and the crew.

CC Skylab, Houston. We got 5 more minutes with you.

PLT Okay, Henry. We got the urine drawer fixed. After we fixed it, we read the malf procedures and decided we pretty much did the right thing, and we fixed it by changing the filter, so it's back in operation and I put it on B channel, but the stowage people should scratch one urine filter from dome 448, I think it was.

CC Roger, copy.

CC Paul, which filter was that you replaced? Was that the fecal filter there, or was that the one that's in the separator cell.

PLT No, that's the urine separator filter, Hank.

CC Okay.

CC CDR, we've got a quickie for you. I was wondering if you'd consider doing a solar inertial EREP pass tomorrow with a hurricane that's off the west coast of Mexico now. What we'd do is use the SPT and PLT with S193 only and the Nikon with a 300 millimeter lens. And this would take about 5 minutes at 18:57 tomorrow. The S193, of course, would have to be warmed up for 15 minutes before this time.

CDR Sure, be glad to.

CC Roger, we'll crank that into the flight plan then, as a small Delta.

CDR Okay.

CC Skylab, Houston. We're about 1 minute to LOS. We'll be coming up on Ascension at 40.

CDR Okay, see you there.

PAO This is Skylab Control. Two hours 39 minutes, Greenwich mean time. We have just lost signal over the Vanguard tracking station, with acquisition at Ascension momentarily.

END OF TAPE

SL-II KC-577/1

Time: 2:50 CDT 13:02:50 GMT

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SCHWEIKART Let me say one other thing since you're tying knots. When you tie the 32 foot PEI rope onto the 6 foot rope, the bridle, we're suggesting you use a bow in there to allow it to slip through rather than a slip knot. And we suggest that you make the loop in the bow quite small so that in case one of the hooks lets go at the bottom of the - of the vent module - that it can't slip through that knot and release all that energy.

SPT Roger, Pete understands.

MCC Okay. And if you've got time to listen Joe, let me tell you the technique about cutting with those cutters on the end of that long pole.

SPT Please go ahead.

MCC Okay, when you get to cutting the strap, and we'll talk a little more about the detailed procedure tomorrow, but when you get to cutting the strap, we found that once you've got the cutters cinched around what you want to cut, that you really don't need to compress the pole. That is you don't need to pull the rope and push the pole. You can simply hold on to the rope and pull it, so that you are actually pulling on what you are cutting. Do you understand what I mean?

SPT Yeah, we understand that. There is another question. Have you tried this technique of partly biting into something (garble) on a stable end point for our EVA trail?

MCC Yes sir, and it works very very well, and until we decided to try that, we were really flailing around very badly out there. Dick Gordon came to mind more than once.

SPT Okay.

CC Skylab Houston. We're about 30 seconds from LOS. We'll be here if you need us. We'll say good night now. Just a couple of seconds ago we picked up what looks like maybe some problems with CBRM 17. We're going to keep an eye on it. We hope we don't have to wake you up for it. We'll be looking for a 10,000 on the DAS in the morning and we will not call you.

SPT Roger that Houston, and good night all.

PAO This is Skylab Control. Greenwich mean time 2 hours 59 minutes. As we have loss of signal over the Madrid tracking station. We heard Capcom Hank Hartsfield advise the crew there seems to be a problem with CBRM 17. That's Charger Battery Regulator Module number 17, which is presently producing 4 amps less than all the other

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Time: 21:40 CDT 13:02:40 GHT

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CC
7-1/2 minutes.

Skylab, Houston through Ascension,

CDR

Go ahead.

CC

Skylab, Houston. Our apologies for the evening questions. We've been busy working the EVA stuff that's gotta go up tomorrow and we haven't got them ready yet. We'll get them up as soon as we can, and you can put them on Channel B at your leisure.

SPT

Okay, no sweat. As a matter of fact, Henry, we're probably going to sleep in tomorrow, because what Pete wants to do is make sure that we get this gear together and that we understand how it operates and talk over the procedures a little bit. So, rather than tackle that first thing in the morning, we're gonna make sure we got it squared away tonight, and if that means going to bed late, we'll get up late.

CC

Roger.

SPT

How about giving the station pass times til about 11:30 to 13:00 tomorrow, will you, please?

CC

Okay, I -

PLT

Have you got those?

CC

I can get them shortly.

PLT

Okay.

CC

Skylab, Houston. We're mulling over what you just said there, you know, we've got a pretty good block of time set up tomorrow morning to go through this thing with all the EVA guys. A lot of those guys have already gone home and I wouldn't be able to support tonight. We'd like to do as much of it as possible during the block of 3 hours we've got tomorrow morning.

PLT

We're gonna do it then, Hank. We just want to make sure that we have straight in our minds what's going on, so that we can ask more meaningful questions in the morning. We didn't want to talk to anybody else any more tonight.

CC

Oh, okay, copy, and those -

CC

Okay, and those times tomorrow. We have a p/ss at Madrid right at - Madrid and Canary's right at 11:00, and Honeysuckle is the next one at 11:45.

PLT

Yeah, okay. If we get up after that just look for a (garble)

CC

Wilco.

MCC

Skylab, Houston.

SPT

Go ahead.

MCC

Yeah. Are you guys gonna cut some rope tonight?

SPT

That's what we're doing right now.

SL-II MC-576/2

Time: 21:40 CDT 13:02:40 GMT
6/5/73

MCC Wait a minute. Let me give you a clue on that. You may have already discovered, when you cut that TBI, it begins to fray very, very rapidly on the end. The people in crew systems discovered that if you wrap where you want to cut with tape and then cut through the tape, it stays very nice and neat and that'll help you a great deal.

PLT (garble) all kinds of help, Hank, but I've asked these other guys, but we got - figured it out. Thank you, anyway.

MCC Okay.

PLT (garble)

MCC (garble)

MCC If you got anything else you want to know, just ask the question. We got a few minutes.

PLT Okay.

SPT Hey, Rusty, I'd still like to hear you describe briefly, in what direction and what manner you put the pole together.

MCC Okay, EV 1 gets out into the FAS, and you begin to assemble the pole, starting with the mushroom end first. You've already got the mushroom on one of the poles and you start that one out. You put four poles or all five poles together and then you put the cutter on the end of the fifth pole. And EV 1 passes it in exactly the same direction we do erecting the MSSC sail. That is you pass it right down parallel to the double handrail. You have to be a little bit careful in that you don't have EV 2 out there. But once you get it put together, you put it on the temporary stowage hook there - you have to - the scissor mechanism on the cutter on the temporary stowage hook, and it stays in place very nicely and it can't hurt anything out there.

SPT Okay. Does he pay line as he goes then?

MCC That's negative. When EV 2 moves up to the A-frame by the discone antenna and EV 1 passed it back up to him, he then begins to pay out line.

MCC Okay, I probably dropped out there, Skylab. Where did we leave you?

SPT You left me on my way up to the A-frame.

MCC Okay. After you get to the A-frame, EV 1 begins to pass it cutter-end first up through the trusses to you, and as he starts to put it up through the trusses, he begins to deploy the clothesline around it at that point, so that when it comes up past you, Joe, you'll

SL-II MC-576/3

Time: 21:40 CDT 13:02:40 GMT

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have the pole and the two lines running down. And when EV 1 gets to the first pole, he cinches the line around the two pronged tool so that when it gets up to you, it's all one piece.

SPT Okay, thank you. Very good, and I don't have any more questions right at the moment, Rusty.

MCC Okay.

SPT We've got that pole rigged here in the OWS and we're clutched up tying the knots to it right now.

MCC Okay, fine. Let me say one other thing, since you're tying knots. When you tie the 32 foot PBI rope on to the 6 foot rope, the bridle -

END OF TAPE

SL-11 MC-577/2

Time: 21:50 CDT 13:02:50 GMT
6/5/73

CBRMs on board. And the regulator output is also 4 amps less. The crew, the flight controllers will look at it during the next pass over Guam. And at 3 hours Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-578/1

Time: 22:22 CDT, 13:03:22 GMT
6/5/73

PAO This is Skylab Control, Greenwich mean time three hours 22 minutes. We are approaching the Guam Island tracking station for a nine minute 34 second pass. We will leave the line up for any possible conversations between Cap Com Hank Harsfield and the Skylab crew.

PAO This is Skylab Control, Greenwich mean time three hours 34 minutes. As the Skylab space station crossed over the Guam Island tracking station on it's 324th revolution. Apparently the crew is bedded down for the evening. There was no conversation between the Skylab space station and Mission Control Center. We have the daily medical bulletin from Dr. Charles Ross, Skylab Flight Surgeon. Following a medical conference with the crew on the Ascension pass on the previous revolution, and the report is as follows: The Skylab crew has no medical problems which precludes making an EVA on Thursday. They continue to eat and take fluid well. The crew has had sufficient time to maintain their personal exercise programs. The Science Pilot has reported some intermittent half wakefulness because of the sleep cap which he wears when he performs the M-133 sleep experiment. Today's activities included 3-1/2 hours of Apollo telescope operations, the fifth EREP pass which began at the Idaho-Nevada border, crossed the Rocky Mountains, down across Texas, the Gulf Coast and into Mexico. Discussions were had with the crew today between Rusty Schweickart and Ed Gibson, backup crew members for Skylab 2, concerning assembly and fabrication of the tools necessary to do the EVA on Thursday morning. Wednesday's program - Wednesday's flight plan has several hours scheduled for EVA simulations in the morning with two TV passes possible tomorrow. And the EVA sims are scheduled to last approximately four hours. For sky-watchers in the Houston area, tomorrow morning June 6th, the spacecraft will be visible, skies permitting at 5:39 a.m. on a pass from west to north. It will be visible for four minutes and 14 seconds at an elevation of 15 degrees. This is Skylab Control at Greenwich mean time three hours 37 minutes. The next report will be 6:00 a.m. central daylight time June 6th. Skylab Control signing off at Greenwich mean time three hours 37 minutes.

END OF TAPE

SL-II MC-579/1

Time: 22:47 CDT 13:03:47 GMT

6/5/73

PAO This is Skylab Control, Greenwich mean time 3 hours 47 minutes. Clarification on the CBM problem, which was discussed on the last Madrid Canary pass. CBRM number 17 was showing approximately 4 amps less on a regulator output as compared to the other 16 CBRMs that are on board working at this time. CBRM 3 and CBRM 15 have been out for the last several days. And the latest status is CBRM 17 shows 4 amps less than the other CBRMs. Flight controllers in the Mission Control Center will continue to monitor this particular CBRM throughout the night. There is no plans at this time to wake the crew up or further discussions on this problem. At Greenwich mean time 3 hours 48 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-580/1

Time: 06:44 CDT, 13:11:44 GMT

6/6/73

PAO This is Skylab Control; 11:44 Greenwich mean time; 50 seconds from acquisition at Honeysuckle Creek on revolution 329 of the Skylab space station. We'll stand by now for possible callup by the spacecraft communicator, Dick Truly, to the Skylab crew.

PAO This is Skylab Control. That was a rather quiet pass. Nothing but line noise on the Honeysuckle Tracking Station pass. They didn't call us and we didn't call them. Crew getting an extra amount of shuteye this morning. There are 11 minutes to Hawaii. And we'll come up again over that station and the following stateside pass at 11:55 Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-581/1

Time: 07:05 CDT, 13:12:05 GMT
6/6/73

PAO This is Skylab Control; 12:05 Greenwich mean time. Fifty seconds from acquisition of the first Hawaii Tracking Station pass this morning. If no air-to-ground conversation takes place during the Hawaii pass, there is only a brief gap between Hawaii and Goldstone - less than 3 minutes. Therefore, we'll leave the line up across the States. And the start of today's activities involving preparations and a simulation - inflight simulation of the EVA tomorrow to free the solar array panel. Standing by for Hawaii stateside pass; at 12:06, this is Skylab Control.

PAO Loss of signal, Hawaii; acquisition of signal, Goldstone in 2 minutes. Continuing to stand by for upcoming stateside pass, end of revolution 329 and start of revolution of 330, Skylab Control standing by.

END OF TAPE

SL-II MC583/1

Time: 07.25 CDT, 13:12:25 GMT
6/6/73

CC Skylab, Houston. We're AOS at Bermuda for the next 7 minutes. Be advised we're not going to do any more unattended (garble) daylight cycles; so we're putting the bird back in solar inertial mode. We are also closing the fine sensor - Sun sensor doors these normal operations. Also be advised that SCAN SPEC light was caused by some high voltage trip-offs in S055. We've been working that problem just for about the last hour or so, and we'd like to look at the data before we work it - before we turn it on again. So on any ATM operations from here, do not operate S055 until further notice, and we'll let you know how our data looking goes.

SC Okay.

CC Skylab, Houston. We're going to be LCS in about 1 minute. We're going to see you at Canary at 12:36, just a couple of minutes dropout.

SC Okay.

END OF TAPE

SL-II MC-584/1

Time: 07:35 CDT, 13:12:35 GMT
6/6/73

CC Skylab, Houston. We're back at Canary;
got you for 9 minutes.

SC Read you, (garble).

CC And Skylab, Houston. A couple of more
things; the ENCO just reported a few secon - a few minutes
ago that he's got a low paper indication on the teleprinter.
So sometime today, if one of you guys get a chance, we'd
appreciate if you'd change the roll of paper. Also, I've
got a solar activity update that I ought to pass on to the
CDR sometime before he does his ATM pass this morning, assum-
ing that you do get squared away up there in time for him
to do that pass.

SC Okay. Give it to me then.

CC Stand by just a second.

CC Roger. I'll give you the solar activity
in just a second, Joe. Be advised we're also now configuring
the rate gyros in our normal two gyros up per axis, and this is
normal commanding at the start of the day. On the solar activity,
we've got active surge regions in SE13 and NE16, and those
active surge regions continue. Old active region 08 is due
back at SE13 at about 20:00 Zulu today. An eruptive prominence
on the limb to about 0.08 solar radii occurred at NE16 at about
07:35 this morning. And we have a possibly new developing region
at 13/0.2, and that was also a few hours ago at about 07:00. One
more advisory: active regions 24, 27, and 28 now have spots in
them.

SC Looks like an epidemic of measles is
coming on. Stand by.

SC Dick, apparently you're not using arc meters
on these things, and we were - we were agreed we were going to
use arc meter coordinates for all solar features. Would you ask
the guys to translate those into arc meters for us, please?

CC Go ahead.

SC Try (garble), 13s and the NE16s and so forth.

CC Rog. I certainly will, Joe. Stand by.

SC Thank you.

CC And Skylab; Houston. I've got the correc-
tions to that goof up we made on reading up the coordinates on
the solar activity update.

SC Okay. Let's go.

CC Okay. The active surge regions that
are still continuing are the 260 at a radius of 1.0 and at
28.0, also on the limb at 1.0. The old active region that's
due back is on the limb 260 at 1.0. And the eruptive prominence
that occurred out to the 0.08 solar radii was at 280 at 1.0.

SC Thank you very much.

CC Roger.

SL-11 MC-584/2

Time: 07:35 CDT, 13:12:35 GMT
6/6/73

CC Skylab, Houston. We're about 45 seconds
to LOS. We're going to drop out for a couple of minutes and
then have a short 2 or 3 minute pass at Ascension.
SC Okay.

END OF TAPE

SL-II MC-585/1

Time: 07:46 CDT, 13:12:46 GMT
6/6/73

CC Skylab, Houston. We're AOS at Ascension
for the next 3 minutes.

SC Roger, Houston.

CC Skylab, Houston. We're 1 minute from
LOS. We're going to see you at Honeysuckle at 13:22.

PAO This is Skylab Control. Loss of signal
through Ascension Island - very brief pass. And Carnarvon
in 28 minutes is the next station coming up, as the Skylab
Space Station crew gets geared up for the day's activities,
which include an onboard simulation in coordination with the
ground of tomorrow's EVA, to attempt to free the solar panel.
They have three solar astronomy passes today with the Apollo
telescope mount. And at 15:52 Greenwich mean time, 29 minutes
to Carnarvon, this is Skylab Control.

END OF TAPE

SL-11 MC-586/1

Time: 08:21 CDT, 13:13:21 GMT

6/6/73

PAO This is Skylab Control; 13:21 Greenwich mean time. Fifty seconds to acquisition through Honeysuckle Creek, Australia. At the last tracking site, over Acension, the average state of charge on the ATM batteries, 71.5 percent. One of the regulators, number 17, still a little bit under power as far as amp hours and our amps that it's carrying. We should be in acquisition now through Honeysuckle. We'll stand by for resumption of communications.

CC Skylab, Houston. We're AOS over Honeysuckle for the next 8 minutes.

SC Roger.

CC And we didn't get our gyro reconfiguration complete. We were still doing X-axis; so we'll need you to stay off the DAS for a minute or so. And you might want to put your X-axis rate gyro monitor in 1 and 2, because that will be the configuration.

SC Okay. We will when we go up there, Houston. We're eating breakfast right now.

CC Roger.

SC M110 is on the VTR, whenever they can strip it, Crip.

CC Roger. Understand. You've got it on the VTR.

SC Hey, what's going on in the world down there? Anybody got a morning paper around?

CC I'll see if I can get some news for you. It's kind of - -

SC We'd appreciate it. We haven't heard much in the last week.

CC You're the guys that have got all the news going.

CC Houston had its annual rain storm last night.

CC Skylab, Houston. We're 1 minute to LOS. We'll have you again at Hawaii at 13:43, 13:43. No joy on the news. Everybody's getting up so early, there isn't anybody seeing the newspaper. Tell you what. We'll try to find one such that we can read you some news with your dinner tonight.

SC Okay. How about passing it up, too, Crip. We'd kind of like to hearing some morning news. Pete's wanted the (garble) time.

CC Rog. We tried that for a while, but the news has been so bad, or so boring, there hasn't been anything worthwhile passing up to you. I guess about the only thing going on is still Watergate and you guys.

SC Well, keep us posted on how we're doing, will you?

SL-II MC-586/2
Time: 08:21 CDT, 13:13:21 GMT
6/6/73

CC Okay.
PAO This is Skylab Control; loss of signal
from Honeysuckle. Eleven minutes to Hawaii.

END OF TAPE

SL-II MC587/1

Time: 08:32 CDT, 13:13:32 GMT
6/6/73

PAO Up coming on the video, on TV monitors in the News Room, will be a television tape lasting approximately 11 minutes of some of the simulations that have been done on the EVA procedures in the tank, the water tank at Huntsville, at Marshall Space Flight Center. We'll be back in 11 minutes for the Hawaii pass. At 13:31 Greenwich mean time, Skylab Control.

VIDEO REPLAY OF EVA SIMULATION
IN MSFC NEUTRAL BUOYANCY SIMULATOR
(AUDIO UNINTELLIGIBLE)

END OF TAPE

SL-II MC588/1

Time: 08:40 CDT, 13:13:40 GMT
6/6/73

SC (garble)
PAO This is Skylab Control; 13:41 Greenwich
mean time. Acquisition Hawaii in about 40 seconds.
SC (garble)
SC Disregard.
CC Okay.
SC Hey, Crip, disregard the disregard.
CC Roger.
SC On general message 2, one of the questions
was "Do we " - I guess question 2 of the general message.
Do we agree with the leading light 11, 12, and 13, of the
ZLV maneuver pad? I assume that that is the fine maneuver
tweet to the - back to FI (garble). Is that right?
CC Let me clarify that for you. Stand by
one.
SC Hey, Crip. If nobody's got anything else
we'll give you the real time answers to the questions.
CC Okay. That first question you did have,
that was correct. All they were talking about was the
fine tweaks for the solar inertial mode.
SC Yeah, okay. Are you ready for some
answers? You got the questions?
CC Roge. Won't you go ahead.
SC Okay, number 1, tape recorder 2 (A) about
the tape motion light. Yes, to me it did seem characteristic
of speed (garble). They kind of, as I mentioned when it
happened, flickered on and off then would go off for a while,
come back on and then stay on for a while. And off flickered
which gradually turned to on flickers, if you understand what
I mean, and it would light back on again.
CC Okay.
SC It was intermittent through the 60 (garble)
operation, as a matter of fact, did not occur during the -
the speed up part of the tape.
CC Did not occur when you speeded it up?
SC That's right. During the speed change
the light went out and it came right back on and stayed
on for a while. It was after it had been running for a while
that I noticed the light flickered.
CC Okay.
SC When I changed the tape yesterday, I
did not notice any difference between the areas for the
two passes. Number 2 on the DOP maneuver pads if (garble)
lines 11, 12, and 13 are. Yes I agree with deleting them.
CC Okay.

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SC If they're going to be zero forever.
Even if they're not, as long as they're at zero I think you
can leave them off.

CC Okay.

SC Number 3, that was the one time in
(garble); they never came on again.

CC Roge.

SC I don't understand the second part of
the question. It says, did the light appear during OFF.
(Garble) running a continuous mode is considered OFF, and
that's when it come on. I don't really understand it.
You got a quick clarification on that part of the question,
Crip?

CC Let's see if I can get EREP for correction -
Adam to clarify that.

SC Okay, and I only noticed it in the end
of the third part to that question. It was when I was
changing building blocks. I don't know if that mode stopped
or not. I don't recall - I didn't consciously look at the
sequence complete talkback and I'm afraid I can't tell
you what its status was.

CC Okay, but it was one time only and
it did occur when you were in the continuous mode?

SC That's right.

CC Okay.

SC Number 4. The nice thing about centering
that white light coronagraph on the TV is that it changes the
roll. So for that roll, yeah, up to (garble) right 24 was a
good number but as soon as you roll off they change.

SC I used right 20 and up 10 in a couple
of rolls.

SC Yeah, you use a different thing. If
we're going to use this technique I think the operator,
Crip, is just going to have to go and he's going to have
to tweak it up on the TV, switch back if he's still got a
ready light. I think we'll soon determine the boundary of
the ready light which are about 25 on the times 1 scale.

CC Okay, understand the changes with roll
and the boundary is about 25.

SC Yeah, that's where you can't get the ready
light anymore.

CC Understand.

SC Number 5 is - I guess we haven't been
placing a coalignment data on Channel B. I ran one yesterday
or the day before, whenever, and nothing's changed since
the first coalignment. All it amounts to is the check.

SL-II MC588/3

Time: 08:40 CDT, 13:13:40 GMT
6/6/73

At least Pete and I. Let me check with Joe.

SC Okay, the only changes that have occurred is when the friendly expert SPT has run them and he has recorded that date on Channel B. The ones that the CDR and PLT have run are - there have been no changes, they just been checked.

SC Okay.

SC Okay, the last question. They're pretty simple I'll tell you what the cue cards mean is nothing but - and what we've done is we have left the EREP checklist and are using the summary time line, as I mentioned on Channel B on page 1-1. There is a double check after we do it fast for in the middle of it we go back and check the checklist. But you can not follow the flow of what you're doing in that checklist so we're using a summary timeline. And our cue card is basically the T-10 item under operator 1 on that summary.

SC And Crip, I have mounted a DS card on the center of the panel which has four items on it: S192 door open, S191 door open, S190 door open, and tape recorder power ON, because these were the ones that are buried through the cutup checklist as it is now. And as you know, we missed one of those the other day, and I have that mounted right in the middle of the C&D console.

CC Rodger, understand. Power on on 92, 91, and 193, and the tape recorder ON.

SC No, no. Door, door open.

CC I'm sorry.

SC 192 door, 191 door, 190 door and tape recorder power ON. Where are you?

CC Roger. And we're about 30 seconds to LOS, and we'll see you again at Goldstone at 13:54.

SC Okay, and on the other general message on question number 1 we'll try and tighten both switches on panel 617. We haven't gotten to that yet. And we have done question number 4. We have revoked the TCF logic CB's on panel 614. Okay.

CC Okay, and we were happy with Paul's answer on question 3 on the evening questions.

SC Okay.

PAO This is Skylab Control. LOS Hawaii. Goldstone coming up in 2 minutes. Our estimate right now for change of shift press briefing with Flight Director Chuck Lewis, who will be accompanied today by Sy Liebergott who is the electrical environmental - all the other things

SL-II MC588/4

Time: 08:40 CDT, 13:13:40 GMT

6/6/73

that go into make up the acronym EGIL. Estimate is for about the next 10 or 15 minutes in the Houston News Room. Coming up in the next couple of minutes will be a downlink of the video tape - onboard video tape play back of the TV4 pass which has to do with the M110 blood analysis. This is delayed VTR dump taken some time ago aboard the spacecraft this morning. About a minute away now from acquisition at Goldstone. To repeat, Chuck Lewis, Flight Director, and Sy Liebergott, EGIL, estimate change of shift press conference in 10 or 15 minutes as soon as we chase them out of the control room. We'll probably take down the stateside pass if it's still underway when they arrive in the News Room and record for delayed playback after the press conference. Skyiab Control at 13:53 standing by.

END OF TAPE

SL-II MC589/1

Time: 08:54 CDT, 13:13:54 GMT

6/6/73

CC Skylab, Houston. We have you again over Goldstone now for the next 6 minutes.

SC Hey, Crip, I'm going to power down the teleprinter to change the paper.

CC Roger. Copy.

CC Skylab, Houston. I don't know whether you're aware of it or not, but we've been having some problems with CBRM 17. And there's not really anything physically for you guys to do, but I was going to give you an update on its status if you'd like to listen.

SC Yeah, go ahead.

CC Okay, on 17 the REG output is no more than two-thirds of its normal output during the day, but it reaches full output about 12 minutes after sunset. The battery's reaching charge complete in normal time. We think the problem is possibly a shorted REG output transistor. We had the same problem on day 144. It disappeared in about 10 hours. This problem began on day 157 at about 2:55 this morning. I guess really what this means is that we're going to be down some more power for your EVA tomorrow.

SC Roger, understand.

SC Hey, Crip, what's the number one if you attempted to tighten the loop and instrumentation system mode switch saddle 617? We tried, and they've got some kind of lock nut on them. We don't want to force them; so we'll leave them the way they are.

CC Roger.

SC Go out and tighten that lock nut.

CC Okay.

CC We're getting a chance to look at that TV you recorded for us this morning. Pete's got his arm out right now ready to get the needle stuck in.

SC Yeah, watch the eyes.

CC (Laughter) Did they go white?

SC And, Crip, you don't want us to operate in 55 at all this morning, right?

CC That's affirm. Not until we give you a GO on it. We're going to lose you for just a few seconds here, and we'll get you at Mila at 14:03.

SC Okay.

END OF TAPE

SL-II MC590/1

Time: 09:30 CDT, 13:14:03 GMT

6/6/73

PAO Skylab Control, 14:04 Greenwich mean time. We'll take down the broadcast line at this time for the Change of Shift Press Conference with Flight Director Chuck Lewis and EGIL Sy Liebergot in the Houston News Room. We'll playback on a delayed basis any air-to-ground that takes place during the remainder of this stateside pass and the upcoming Canary Island and Ascension pass. Skylab Control, 14:04; out.

END OF TAPE

SL-II MC591/1

Time: 09:32 CDT, 13:14:32 GMT

6/6/73

PAO This is Skylab Control; 14:33 Greenwich mean time. Skylab space station just passed over the hill from the Ascension Island Tracking Station on revolution 331; 21 minutes to acquisition at Carnarvon, Australia. In a short time there will be a replay or guess I should say a playback of video tape that was made at Marshall Space Flight Center, Skylab backup Commander Rusty Schweickart going through some of the EVA procedures in the water tank down there in the neutral buoyancy simulator. And we have about half of the previous stateside pass and the Canary-Ascension pass on - 4 minutes total on tape for delayed playback, now that the Change of Shift Press Conference is over. So during this gap between Ascension and Carnarvon let's listen to the audio tape from air ground; and for those in the Houston area, news persons in the Houston area, the water tank video tapes. Roll tapes.

CC Skylab, Houston we're AOS over MILA for the next 10 minutes - for the next 10 minutes. And Pete if you've got a chance to listen I've got a little more details on some of that SAF information I gave you this morning.

SC Okay, go ahead.

CC Okay. We have given that one region coming over the limb at 28 - at 1.0 number active region 31 and a leader sun spot is in view, with a small surge in progress.

SC Houston, SPT.

CC Go, SPT.

SC I'm not going to do M487-480 this morning. I don't have time. Could you schedule that later in the flight.

CC Roger, unders and the gate 47 - 480.

SC Okay, Houston teleprinter paper is changed, and for information the diameter of this paper remaining was 7/8 inch.

CC Roger, understand 7/8 inch and it is changed out, thank you.

SC Houston.

CC Go.

CC I've got to see someone to operate 55. My pad is no good for JOP 7, paragraph 1, is that correct? You don't want to run that?

CC Stand by, pretty sure that's correct.

CC Pete, they checked out the high voltage and they'd like you to go ahead and use 55 as called for right after the roll in building block 1.

CC Skylab, Houston we're going to be LOS in about 30 seconds. We'll have you again at Ascension at 14:21 - 14:21 and we'll be doing the data dump at that pass.

SL-II MC591/2

Time: 09:32 CDT, 13:14:32 GMT

6/6/73

SC Okay.
CC Skylab, Houston; we're AOS over Ascension for the next 10 minutes and we'll be doing the recorder dump.
SC Okay.
SC Houston, you there?
CC Affirm, go ahead, Paul.
SC Hey, we realized last night that we're not sure what the status of the fire sensor control panel is supposed to be. They've all been on button 2 - most all of them - the last 4 or 5 days, whenever that message was sent up. Is that the intent or is the intent to swap the fire sensor control panel to bus 2 when CAUTION AND WARNING is powered down during the day, CAUTION AND WARNING 1?
CC Our intent is to leave them on bus 2 all the time so you won't have to be running back and forth changing them.
SC I love you Howard C. Griffith.
(Music)
CC Pete that sounds mighty sweet. We've got an indication right now that we do not have 82A in AUTO 1 NORMAL and we would like it that way, please sir.
SC Ah ha. 82A up here is in that AUTO 1 NORMAL, wavelengths ON.
CC Okay.
SC Now, let me give it - I gave it a start, maybe it didn't start. How's that look?
CC That looks good to us now.
SC Maybe I gave her a start - maybe I didn't
I - operating light (garble).
CC Understand you had an operate light?
SC 82A has an operate light all the time and the frame counter is stuck at 182 which has been that way for the last --
CC Yeah, okay. Sorry about that. Forgot about it.
SC Well, I did too because I haven't had that much time on the ATM here.
CC Skylab, Houston. We're 1 minute until LOS. We'll see you again over CRO at 14:54 - 14:54.
SC Roger, Roger.
PAO This is Skylab Control, that completes the playback of the delayed air-to-ground recorded during the Change of Shift Press Conference. 15 minutes away from Carnarvon acquisition. The EVA team of flight controllers here in the Control Center headed up by Milt Windler is all in the process of watching the playback of the underwater simulation run at Marshall Space Flight Center in the neutral bouyancy simulator by Rusty Schweickart, backup Skylab commander.

SL-II MC591/3

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And later today there will be a simulation - two way simulation between the crew of Skylab and the Flight Controllers here going over the EVA procedures. 14 minutes to Carnarvon and at 14:40 Greenwich mean time; Skylab Control.

END OF TAPE

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PAO This is Skylab Control; 14:53 Greenwich mean time. 50 seconds to acquisition at Carnarvon with a short gap between Carnarvon and Guam of about 6 minutes. The video tape playback of Rusty Schweickart's exercise in the neutral buoyancy simulator has been discontinued here in the control room for a short period here until we have an LOS at Guam. Up coming on the stateside pass Rusty will discuss with the crew, probably starting here at Carnarvon, the checkout and run through of the so called EVA sim on getting equipment ready. And we'll have live TV hopefully during the stateside pass of the EVA - -

CC - -over Carnarvon for 10 minutes.

CC Skylab, Houston. Over Carnarvon for about 9-1/2 minutes.

SC Roger. Hold it, Rusty. I got a question for you. Why - Is there any reason we can't use the one way reefing block on the BET also next to the big hook?

SC We've looked at that Pete and it does not look as though that would take the load. You're talking about the - thing plane that was originally designed for the SEVA sail deployment.

SC Yes.

CC Okay, it does not appear that that will take the kind of loads that we need to put into that line, therefore we wanted to just tie it on to the apex hook.

SC Okay, understand. I thought that that was probably the reason.

CC Okay, what we'd like to do here in the next few hours is to handle any questions you have and with the total EVA we got a lot of information that we plan on passing up to you. However, we'd like first to handle any questions which you might have on the assembly of the gear, the hardware itself.

SC Well, we have assembled the pole. As a matter of fact it's still all put together in here. We have lengthened the rope, we've assembled the pole, we have the horns on it, the brass horns and I've made the BET. The only thing I'm going to have to do is take the briefing block off it. I just left that there to see whether it could be used or not. And I think that what we're going to spend the next couple of hours doing is making up these packages. I guess if I have any questions at all it's mainly concerned with the general statement package for EVA deploy, and that leaves a lot to the imagination. And I think we're going to look around in there and think that over for a while. We've been talking about it but we haven't done any packaging

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yet.

CC Okay, you're entirely right. That does leave a lot to the imagination and we figure you guys got a lot of that. What we meant of course, is to essentially package the ropes in such a way that you - you do the equivalent of what Mike Bennett does over there with the clothes line packages. But obviously you're going to have to S the lines back and forth and put tape probably around each end or maybe just around the middle in such a way that as you string out - the thing is going down the EV trail, that it'll deploy nicely.

SC Yes, I wish they'd put more of my rubber bands in here than we have, cause rubber bands would have been ideal, I don't think we have enough rubber bands.

CC We did it, Pete, in the water tank using the gray tape and put a strip of tape around each end of an S - as we S the thing back and forth and put a piece of tape around each end and it tended to deploy quite nicely. We really did not end up with any problems with it in the water.

CC Pete, you want to make sure also that when you put those ears on the tape when you fold the tape back over on itself, you make those ears plenty large. What looks good without a glove on looks pretty small with the glove.

SC Yeah, I understand that.

CC Okay, and if you're ready, Pete, we can start on some of the detail information regarding the EVA operation itself.

SC Okay, I'm ready to copy.

CC Okay, first there's one piece of teleprinter update that hasn't come up yet and this is the additional EVA procedures which will cover you before the remove and re - retrieve and replace on the S082A, the - other ATM operations on the sun end, the TV operation and that kind of thing. That will be coming up to you as soon as we can get it all verified and checked out here. It should be up sometime within the next few hours.

SC Okay.

CC Okay, to give you an idea of what you're going to see or what we think you're going to see when you get down there next to the beam I'd like to just refresh your memory on what that longitudinal splice looks like. The splice itself is made up of - aside from the meteoroid skin, is made up of two pieces of metal. One of them

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is a - an angle which is made of 7075 T6 aluminum. And that's a 1 and a quarter by 3 quarter by 063 angle. The long leg of that angle, the one and a quarter, is against the meteoroid skin with the angle - that is a long leg pointing toward the meteoroid - or rather toward the beam. The -

SC Rusty, was the long leg attached to the meteoroid shield or was it attached the angle next to it?

CC The long leg is attached to the meteoroid shield itself and points toward the beam. The 3/4 inch leg then comes perpendicular to the meteoroid shield. The skin comes up against that and then there's a doubler plate which is 3 quarter inch by .125. And that's 6061 T6 aluminum, and those two 3 quarter inch legs are then bolted together. Now -

SC Okay, we understand.

CC Okay, now the bolts that go through those - that 3 quarter inch flange are pointed away from the beam. That is the bolt heads are towards the beam and the thread sticks through and they protrude a considerable amount up to a half an inch beyond the nuts on the - they go up against the doubler plate there. And we think that what happened was that that angle as it ripped off - as the meteoroid shield ripped off, was rotated 270 degrees and that the threads are sticking into the sides of the beam, right up at the top.

SC Yeah, something is making it stick to the beam, and that's probably it.

CC Okay, now the reason we wanted to describe that is because from your verbal description and also the the photo interpretation we've done from the enhanced TV it looks as though the 7075 aluminum bracket maybe missing as that angle comes up across the - the beam. And then right at the end it looks as though you've got both pieces of metal there. What we mainly want to let you know is that the doubler plate,, the 3 quarter by .125 6061 is soft aluminum and is easier to cut than is the 7075.

SC Understand.

CC Okay, we also - I don't know if you had a chance to practice with the bone saw, but we've got identified for you a piece of 7075 aluminum inside and that was the launch support bracket. It's referred to in the switch activation checklist page 3-29. It's the bracket that held up the panel 612 for launch vibration. That's a 1 and an 8th by 1 and an 8th 7075 T6 bracket and feel free to cut through it. The only precaution is that you want to have a vacuum cleaner sitting right on top of

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it so you don't end up with aluminum chips.

SC Okay.

SC Hey Rusty, I got one question on this

doubler.

CC Speak.

SC Is the doubler on the backside of the meteoroid shield from the angle.

CC That's negative. Paul, if you'll lay the meteoroid shield right up against the skin of the vehicle, both - the seam is on top of it, that is on outside of the meteoroid shield. Well, I think you got the picture right?

SC Yes, I got that. But is the doubler on the other side of the meteoroid or between the shield and the angle?

CC Okay, starting from the left you have the - the 7075 angle. The skin coming from the left if you're looking plus X up? The skin comes over and stops at the edge of the 7075 angle. The skin coming from the right comes over to it and raises toward you 90 degrees. Up against the 3 quarter inch light the doubler is immediately on the right side of that, and both of those then are on the upper side of the others - that is the outside surface of the meteoroid shield. By the way, we got 25 seconds to LOS here, and we pick up Guam at 15:09.

SC Okay. I got a question then about the - about the vent module.

CC Okay, right. I got a description of that for you. You can keep right on talking here, we can listen to you any rate and know what your questions are and we'll be ready for you over Guam.

SC Okay, my only concern is what hole are you supposed to hook these hooks in. I was briefed before we left and was told that those rectangular plates were supposed to be blown off at liftoff and that then there would be two round vent holes in the module. Is that so or not?

CC That's not so, but we don't really need to worry about that because we don't use that part of it to hook on the - the deck.

SC That's all I wanted to make sure.

CC Okay.

SC Okay, I've got a couple of questions for you to consider in your restraint. Number 1, how did EV2 restrain himself so he could find the pole initially, and number 2, how does EV2 restrain himself while he is repositioning (static)

PAO

This is Skylab Control; 15:05. Brief

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gap here between Carnarvon and Guam. We'll leave the circuit up for that gap. Some 4 minutes remaining for resumption of the description by Skylab backup Commander Rusty Schweickart of how the tools and materials available to the Skylab crew can be adapted for tomorrow's EVA to get the solar array panel out, the one remaining good panel deployed. Three minutes to acquisition of Guam.
15:06 standing by, Skylab Control.

END OF TAPE

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CC Skylab, Houston at Guam.

SC Hey, Rusty. We don't understand what we can practice on with the bone saw. That support under that electrical panel is nothing but (garble), which is corrugated and then curled up at the ends. We thought you said something about 1-1/8 by 1-1/8 angle.

SCHWEICKART Okay, Paul. I haven't been able to physically check this. My understanding is, page 3-29 of the activation checklist, you remove an aluminum support bracket that's a launch support bracket. And I don't know whether you put it in the launch pin bag, or whether you screw it down to plenum, or what. I've never done that, Paul, in activations; so I'm not familiar with it. But that's what I was told. We'll get somebody to chase that down and let me press on here. Actually, if you find any nice aluminum bracket that doesn't seem as though it's terribly important, feel free. Just make sure that it isn't carbon steel or something you're trying on it.

SC Go ahead.

SCHWEICKART Okay. Let me try and work in Joe's question as we get to that point. Pete, let me continue on the strap - what we expect to happen here when you cut through that. First of all, our first choice on the cutting is to go ahead and use the cutters with - on the long pole, with Joe pulling on the rope and you out there on the end of the beam, tethered to the BET at that time and having your left hand - That is, your head is toward minus X, and your left hand would be holding the cutter scissors. That helps to stabilize the cutters, and, also, when it breaks through, it keeps the cutters from flying up. Now what we expect to happen - and we want to make sure you keep your hands away from the strap at the time it cuts through, because there is a chance that the torsion lengths are still putting considerable tension on the meteoroid shield. And we expect that when the strap is cut through, it may spring out and then back underneath the beam to the extent of about 6 inches. Okay, the - -

SC The (garble).

SCHWEICKART Okay. That is a particular trap, Pete, if you decide, for whatever reason, instead of cutting it to pry it off. If you are going to pry the strap off, it tends - we've done it a couple of times in the water tank, and it tends to be very natural to hold on to the - on to the strap with your left hand as you pry with your right hand. We feel that holding the strap is your choice for positioning, but when you go to pry, make sure you put your left hand on the beam and not on the strap. Okay. After you cut the strap, we expect, because of the frozen damper situation, that the beam may rise, just due to the spring actuator, - may rise about

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4 degrees after the strap is cut and before you really put any tension in the BET. So you want to be aware that it may start to come up there right after the strap is cut. Also recommendation after cutting the strap and when you get back down there to play the human (garble) pole game, getting under the BET to push up on it: we kind of recommend facing the end of the beam rather than back toward the FAS so that you can get a good view as the beam moves. And you can get a little bit better sensing when the actuator damper bracket begins to crack through. And it's quite important - I'll give you a little more history later on the beam, but it's quite important that when the bracket - when the beam first starts to give, and you can feel it in the BET, you want to slack off so as not to put any additional energy into the beam coming up. Pete, to give you a report on the test results here, we've broken quite a few brackets now. All of them tend to break at about the same point. The cold ones break with a slightly greater force. They tend to be a little bit stronger, but we're running on the order of 160 to 190 pounds tension in the BET when the bracket breaks through. That gives you an equivalent of about 90 to 100 pounds of compression in your legs. That is, that's about what you're going to end up pushing up with for compression in your legs when you get that kind of tension in the BET. and when the bracket begins to give. Now the bracket, as was reported by Don Dowdin earlier, does break in two different - You break off one side of the bracket first and then the other, and the first one is the one that takes most of the effort. It breaks with the equivalent of about 19 pounds at the end of the beam. That's about 170 pounds of tension in the BET. And, then, the second one breaks with the equivalent of about 12 pounds on the end of the beam, and that's down - I don't know what the number is, but it's considerably below what it takes to break the first one. So you can expect a sort of two-stage release of tension as you're raising the beam. Now the only - Okay, the only caution on it, Pete, is that when you feel the first breakage there, we expect it to be the bracket. However, there is still a possibility that the 1132 screw may go, and in that case, you want to give it time to come up by itself, because in that case the spring would be pushing it all the way up, and you do end up with a relatively healthy tip speed. The tip speed at latch at that point gets up to about 2.7 feet per second, and that's no problem as far as safety is concerned. The latch will take up to 3.4.

SC

Okay.

SCHWEICKART But just for safety reasons, it's a good idea, when you feel something break, to just stand back and let it go. Okay. We've got LOS coming up in about 55 seconds. We're going to pick up Goldstone at 33 and we'll be having real time TV available there. So anything you'd like

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to show us in the way of your assembled gear and point to it and ask questions or, you know, a show-and-tell kind of game here, going over the States, picking up at 33 at Goldstone.

SC Okay. 33 at Goldstone. We've got the TV up and running now up above, and we'll show you what we've got.

SCHWEICKART Okay. Now let me say that the VTR has been rewound; you have about 15 minutes available to you. If you want to put something on between now and Goldstone, it's available. I think it would be most desirable, unless we have a lot of TV, that we just do it real time. And it avoids confusion on the VTR. But that is your choice, and just let us know, coming up at Goldstone, whether we're going to go real time or whether we should replay VTR.

SC Rusty, we'll go real time, because we have everything assembled. And the only next thing is, by 17:00 we might have some stuff packaged. And that would be the other thing we'd want you to look at. We'll show you what we've got assembled, and that's about it for now. We've got the major (garble) in a second.

SCHWEICKART Okay. Good. That's what we were hoping. And I'll have more reports, especially for Paul, on that detail of what the vent module looks like and where we hook the BET on the end down there.

SC Okay. (Static, inaudible)

PAO This is Skylab Control. Loss of signal through the Guam station. Two fairly talkative passes there at Carnarvon and Guam, as Rusty Schweickart briefed the crew on what to expect in their EVA tomorrow. And the crew will turn on the TV camera for a live pass coming up on the States in 15 minutes, at Goldstone back at that time. And at 15:18 Greenwich mean time, Skylab Control out.

END OF TAPE

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PAO This is Skylab Control; 15:32 Greenwich mean time; 50 minutes from acquisition through Bermuda. The video picture beginning to come through from the Skylab space station.

CC We've got you here at Goldstone for a nice long pass; Goldstone, Texas, MILA.

SC Roger.

SC Roger.

CC Okay. We've got TV. It's a little bit noisy yet., but we've got it now. So feel free to show us anything you want. Hold it up in front of the camera.

SC How do you read, Rusty.

CC Okay. Read you now, Pete.

SC All right. I didn't like the idea of (garble) wires (garble).

CC You're unreadable, Pete.

CC yeah, that was a bit soft on it, Pete. You may have to stick that thing down your throat to talk to us.

SC Okay. (Inaudible)

CC Okay. We could read that you didn't like the wire on the tension bar, and you've rigged up ah - tape. The only thing that I can say, is that we used only tape and no wire around the tension bar. We did hold the wire loop you've got there secured very tightly and not just the tape.

CC Yeah, Pete. That may get kind of warm out there in which case it's going to lose its strength and slide around a lot. Hey, Pete, on that pinch bar, also, not included in the procedures is for you to - or EV 1 to take that off of the BET before you start pulling up on it, even if you don't use it. We'd like to have that done, just so you don't have that extra mass setting out there on the BET.

CC We see the doctor getting into his suit. We wonder if he's going to try and go out there today?

SC No. I want to get a halfway feel, for the typical feel of handling that 25-foot - never mind.

CC Okay. We think that's a good idea Joe.

CC Okay, Pete. We can see the - that you've got the bridal rope there with a small Apollo hooks on the end. You're bow in there, that looks just right. That looks good, Pete.

CC Okay. And since you had that, let me at this time, just give you a couple of words on where that goes when you get down to the vent module. The vent module itself - and Paul, you may have out that same SWS map diagram. When you look at that, the vent modules that are shown on SAS beam 1, are actually upside down. They should look like the ones on SAS beam 2. Now that's not terribly important but the diagram is a little bit wrong there.

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SC We noticed that last night.

CC Okay. The trailing edge and, Pete, let me see yeah, we got your look at the apex hook and that's exactly what we're talking about. Let me only say that the crew systems people have looked at the rope and the limiting strength on that and they have come to the conclusion that when the rope breaks - when they break it around 400 pounds or so of tension, and it's - it gives at the notch. Usually where the rope goes around an edge. Okay. That looks real good, Pete.

CC Okay, Pete. Also on that you do need some way of retaining that stop on the apex hook, so it won't open up on you.

CC - - module Pete. And go to hook on the bridal. The trailing edge of the vent module has a slight fairing - a triangular fairing which brings it down smoothly to the beam. That fairing is about 3 inches high, the same height as the vent module, and it's about 6 inches long. At the point where the lower corners of that fairing come down to the surface of the beam, there are stress release cutouts right down there, and you can hook the small Apollo hooks into those small cutouts. They go in relatively easily, however, the Apollo hook will not lock, that is the jaws on the hook will not close. So what you need to do is to coordinate that with Joe, so that when you put the bridal into the aft portion of the vent module, you maintain a slight tension yourself until Joe cinches down with the apex hook on the other end. That takes out the tension. Okay, we see you headed for a speaker box there, and we're about 35 seconds from an LOS and we'll have about a one-minute drop out until we pick you up at Texas.

SC Okay, Rusty. I need to have you tell me about that - I understood that they weren't going to hold, but I want you to describe the end of box again for me.

CC Okay, fine, I'll do that, Gene. While we've got just a few seconds here, we may go LOS while I'm telling you this, but just for your information. The damper - the actuator damper for the beam is still at minus 60 - minus 60 degrees, so that we do expect that you will break the bracket. The dampers in the SAS panels are all reading minus 40 degrees. And I'll have a few words about the SAS panel deployment itself, because we do have a relatively critical operation on that. And we're going LOS, now.

END OF TAPE

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CC Okay, we've got you again here at Texas, Pete. If Paul has got that SWS map out, he can sort of sketch this in also. The BET runs vertically down - it runs almost down the middle of the beam. So if he wants to draw a vertical line on that thing that goes almost down at 8.0, the bridle - the intersection of the BET - of the long part of the BET with the bridle occurs just about at the top of where the louvers would be in the middle of the vent module. And the bridle then goes down to the two lower corners, to the left and right lower corners of the vent module. Now what you've got there, Pete, is essentially a single piece of aluminum that makes up that aft fairing. And right down on the surface of the beam, the extreme lower corners of the vent module have a small cut-out there, just rounding, so that there are no sharp - there aren't any high stress points on that piece of aluminum. And I'd say you've got an opening which is about 1/2 inch to 3/4 of an inch high - an opening which is about 1/2 inch to 3/4 inch high and probably 1/4 inch wide. And the hook of the small Apollo hooks there - the hook portion of it will slip right into those. You have to sort of hold the hooks horizontal, if you're looking at that map, and slide it in. And then when you take up tension, the hooks will stay in those slots.

SC (Garble) - yeah, I did not use tether hooks. I used the two tether hooks off the other end of the Apollo sail.

CC Okay, those are also the small Apollo tether hooks, right?

SC Right, as best as I can tell. I'll go compare (garble).

CC Okay, that's fine. They'll take the stress. I'm sure that they're the same Apollo hooks and understand you just wanted to save the wrist tethers. That's just fine.

SC Yeah.

CC One thing that will help you with those hooks, Pete, is to make sure that they - if the springs are functional so that they are spring-loaded closed, because they'll help hold it into the hole before you draw up tight on the BET.

SC Understand that. Tell me another thing. Just how do you get yourself under the BET?

CC Okay, after you - first of all, when you go down - we're going to talk a little about the details of going down there. But what you do, Pete, once you're ready to cut through the strap, you take your - the Apollo waist tether and hook it to your right wrist, and you take the big end of it and hook it to the 32-foot section of the BET rope that is above the intersection with the bridle.

SC Roger.

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CC And after the beam is free, what you do is using that rope as a trail, you just move back above the hinge line and just work your way underneath the line. It's not that tight. There's really no problem. And as soon as you get underneath it, as you begin to raise up, you put compression on yourself. And so it's quite natural to be able to stand up, and the rope holds you down nicely against the beam fairing.

SC Okay.

SC You can't (garble) the discone antenna if you are looking at minus X (garble). The discone antenna is on the right about 9 inches away sitting in an angle channel, isn't it?

CC That's very good, Pete. It is about 9 inches to the right, and it's oriented parallel to the FAS separation wing there. Now --

SC Okay, we can see it from the window - the STS window.

CC Ah, that's great. We never even thought about that. There is one caution that we want to give to Joe and that is that he wants to tether his long tether - it's hooked to his chest at that point, and then the discone antenna itself becomes one of the things he could use for his stabilization as he tries to lay the cutters down alongside the beam. Now, just for your information, you can put 40 pounds of force 4 feet up from the bottom of the discone antenna, and that'll give you a factor of safety of 2 on that. A precaution though is that at the base of the discone antenna, there are two COAX connectors which provide the signal path down inside, and - Joe wants to be careful not to mash those connectors.

SC I'll just say it now. The A frame that you're referring to is the two (garble) members that the discone antenna tray is mounted on, is it not?

CC That's exactly right. The discone antenna tray is mounted at the minus-X end on a cross member that goes between two of the DA trusses, and that's what the apex hook goes over. And the end of that - the end of that cross member is directly in line with the SAS beam so it causes the BET to lay right down on the center line of the beam just right.

SC Now, wait a minute. Say that again. Let it go.

CC Okay, if Paul's got his diagram out, and he draws in the DA trusses - okay, you've got the diagram right in front of you. The two DA trusses - one of them comes out of the FAS ring at about 7.6 and D0, and the other one comes out at about 9.2 in D0. And they go respectively up

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to 8.0 and A0 and 8.8 and A0. The trapezoid up there with those two DA trusses.

SC Okay, now that's the one that's got the discone antenna tray. That's also the one we could see from the window.

CC Okay, right. The cross member goes between those two trusses, and it's located 6 feet off the FAS ring. That would be on the diagram horizontal line at about A2.

SC Okay. Rusty, where do I put my feet?

CC Stand by just a second, Joe. Pete, the left hand end, looking at the diagram with plus X up - the left hand end of that cross member then is directly in line with the SAS beam, and that is where you hook the apex up.

SC Okay. (Garble) we can see all that out the STS window.

CC Yeah, that's great. We never even thought about that, and that's better than any diagram we've got. Now, Joe, what you do is when you first get up there on the A-frame, you'll tether the long - your 6-foot tether that's hooked to your chest to that pin at the base of the discone antenna, and that becomes your prime tether point. You can get from the FAS beam, rather from the FAS, then the discone antenna all the way back to the A-frame without ever disconnecting that tether. It allows you good freedom for getting back and forth. Now what you do when you're trying to lay the cutters down the side is you tend to use the edge of the FAS ring, watching out for those COAX connectors for your feet, and you can wrap your left arm around the discone antenna itself. And of course it's a lot easier - should be a lot easier than in the water tank where you're fighting all the drag and buoyancy. And you should be able to place the cutters right down alongside the beam.

SC Are you guys standing up along the radial axis?

CC That's affirmative when you're hooking on the cutters.

SC Okay.

CC When Joe goes - after you get the bridle hooked up, the BET hooked up, and you're ready to actually cut, what Joe wants to do there - we found a cutting technique where what Joe does is lay down along the rods, face down to the workshop, and hooks his toes over the FAS ring. In other words, his toes are draped over the FAS, and he's laying down along the outside of the FAS. And all he does is pull on the rope that causes the cutters to cut. He doesn't have to worry about putting compression in the rod, in other words; just pull on the cutter side of the rope.

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SC Okay, about those connectors. It's obvious that there's a risk that they'll be damaged or broken off, and that's something we're just going to have to accept.

CC Right. We recognize that, and all we're asking for is reasonable prudence on your part, Mr. SPT.

SC Right. And in that evolution and also in the evolution of repositioning the scissors and so forth, we'll just have to wait and see when we get out there whether we have adequate restraints to do the job. We're pulling on that clothesline. It sounds like you need to be a little negatively buoyant, and I'm not sure we can manage.

CC Negative. When your toe is hooked over the FAS ring there, Joe, and you're holding on to the rope, it just pulls you out straight, right along, and you should be able to put quite a bit of tension on that rope. And Pete will be holding the other end of it, and he'll be holding the scissors on the cutter, and that'll stabilize it when it cuts through the aluminum.

SC It's not so much a matter of getting into a position as it is maintaining it while you're exerting forces.

CC Joe, I think you can do that quite easily if you just make a slight V out of your body. If you've got your toes down and your head on the vehicle and you make a slight V, when you pull on that rope, that's going to put you right down tight - right next to the vehicle.

SC Okay.

CC At that point, let me just mention the technique for hooking it over the - that we've found works best for hooking it over the aluminum strap. And that's when Joe lays the cutters down the beam to have the body of - the cutting edge up against the beam and just sort of slide it down the side of the beam until you hit the strap. And then bring it out and over the strap so that the cutters are just on the other side. And then you pull back, and as the cutters ramp up over with the jaws open - first of all you want to make sure the jaws are all the way open. But then as you come back toward you, the cutters will fall right over the strap, and then you can sort of give it a slight push and pull and make sure that it is there. And then clamp down on the jaws.

SC Rusty, you're still maintaining that he's going to find the best place to get a bite on the strap on the side of the beam fairing, right? Rather is it on the top?

CC Yes, that's what it appears from our photo analysis, Pete, but you know you'll have to make a judgment on that when you get out there. But we think that you probably should cut it, without any question, below the

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point at which the bolt heads are dug into the beam. And we think that the side where you reported that it was bowed out 2 to 3 inches should probably be the best place to put the cutters over it.

SC Yeah, because it's darn near flat across the top. I - you know, Paul could barely get the little pointed prongs under it.

CC Right. We've been doing all our work down on the side of the beam, just about the middle there, half-way up to the top of the beam. And it tends to hook on relatively easy. And once you've got it clamped, it makes a very nice pole going down there. By the way, we've got 10 seconds to LOS here at Bermuda, and we'll be picking you up over Ascension at 01.

SC Okay, we've got some more work to do.

CC Okay. And at that point, Pete, I want to talk about some timing here - the day-night cycles and that kind of thing and a few constraints regarding lighting.

SC Okay.

PAO This is Skylab Control; 15:52 Greenwich mean time. Loss of signal through Bermuda for a rather lengthy discussion there between both Ed Gibson and Rusty Schweickart in the Control Center and the Skylab crew, going over all the nuts and bolts details of arranging and building up the equipment on board Skylab for tomorrow's EVA. Next station in 7 minutes - little over 7 minutes for Ascension Island Tracking Station pass. And after loss of signal at Ascension at approximately 11:08 or 11:10 central daylight time in the Houston News Room, Dr. Royce Hawkins and selected principal investigators will hold a briefing on medical experiments status. That's at Ascension loss of signal, which will be in about 15 minutes. Dr. Royce Hawkins and selected medical experiment principal investigators. Back in 7 minutes. At 15:54 Greenwich mean time, Skylab Control.

END OF TAPE

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PAO This is Skylab, Control; 16:00 Greenwich mean time. 50 seconds away from Ascension Island. A very brief pass of only 5 minutes duration. Elevation angle only 3 degrees above the horizon. Final Ascension Island pass in the morning and for several revs until the ascending node moves farther westward. The start of revolution 332, we're stand by for resumption of air-to-ground communications and after Ascension loss of signal, the medical experiments, status briefing will take place in the Houston Newsroom with Dr. Royce Hawkins and selected principal investigators.

SC (garble)

CC Hello, there again sky troops, we're back again at Ascension.

SC Go ahead.

CC Okay. Just a couple of things on my list here that I'm looking at that I missed. For Pete, as I say the expected happening is that the bracket will break when you raise up on the BET there. And the studies all show that the expected tip-speed of the beam coming up, is going to be something less than 1 foot per second. If you work all that out, that says that isn't going to get up and latched until about 1 minute after you break it, so the thing doesn't really snap right up at you. So, you don't want to be too anxious. Just pull it and watch it come up slowly and you may, in fact, have to help it up, if the friction is higher than the good troops here on the ground have computed.

MCC One point for you there, Joe. If that does give you a fair amount of time for umbilical management of EV-1.

CC Okay. Pete, the other thing I want to mention to you was that after the SAS beam comes up and latched, the actuator dampers on the SAS panels themselves are about 40 degrees, and that's minus 40 degrees. We expect that they will come down - All of them will begin to come down and lock. The deployment of those panels is expected to take about 10 minutes, until they get fully down. Now, the important factor in all of that, is that if the beam comes up, but the panels do not come down, we need to make a maneuver fairly soon, in order to get sunlight on the beams so that the actuator dampers will heat up. Conversely if we do not maneuver, if the beam comes up and the panels do not deploy, the actuator dampers will begin to cool off rather rapidly which means that it will take even longer to heat them up. So, we have a maneuver planned, and standing by for about -- oh I'd have to get the detailed timing, it's about a rev after

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you pull the beam up, maybe a little less. And let us know if they do not come down, within 10 minutes, or if they're not on their way down, and we'll probably maneuver about 45-degrees plus X toward the Sun, to get sunlight on the top of that beam.

SC Okay. I suspect that we might not get the beam deployed, assuming that we do, until the second day period.

CC Right. I'll talk to you about timing on that. It looks like we've got a minute and 45. Let me just start on that and say that all of the planning here is to get you at a point, about 15:37, tomorrow morning, just a little less than 24 hours now, where you open up the EVA hatch to start the EVA at Sunset. This gives you about - -

SC Okay. We understand that Rusty. I've got another question.

CC Go ahead.

SC When the pole is deployed, how tight was it possible for human hand to cinch it up - at my end? And after the strap is cut, does the pole then become useless as a handhold for Pete?

SC Okay. I would guess, Ed didn't say it, but I guess he put probably 20 to 25 or 30 pounds of tension in the line just to cinch it up to make it a hand hold at the beginning. After the strap is cut, that's affirmative. What we recommend on that is to swing the cutter back up almost 180 degrees and lay it toward plus X to get it out of the way when the beam comes up, so there's no question that it might snag on anything. Pete has his way to get back up there using the BET. He's going to be directly under it and as soon as he snaps the thing, you just slowly make your way back up to the pass.

SC You'll be coming to the BET at that point, Joe.

SC Yeah. I understand that. I foresee him having a little trouble getting up onto the rope and I also foresee him having a little trouble repositioning the jaws, if he has to. But we'll just have to work it.

SC Okay, Joe. We'll talk about that at Carnarvon at 31. We're now essentially LOS.

SC Bye-by.

PAO This is Skylab Control; 16:06 Greenwich mean time. Loss of signal through Ascension Island tracking station. 24 minutes to Carnarvon. The medical experiment status briefing in the Houston Newsroom will begin as soon as the participants show up at the newsroom. I understand they're on station in the newsroom at this time. Any ground station passes that take place during the medical experiments briefing

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will be taped for delayed playback. It'll probably have live television again on the next stateside pass in as much as the landlines are still least, at 16:07 Greenwich mean time; 23 minutes away from Carnarvon acquisition, Skylab Control; out.

END OF TAPE

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PAO This is Skylab Control; 16:47 Greenwich mean time. We join the conversation in progress over the Guam Island Track Station; and we'll play back the previous Carnarvon Station after Vanguard loss of signal.

CC And then tape the keeper so that it stays - you make sure that it stays on that truss.

SPT Can he put the tape on the - on the hook somewhere?

CC Yeah - What we were thinking, Joe, was for - in the prep, all you do is take a piece of tape that's 2 or 3 inches long and stick it to the side of it - of the apex hook. And then when you hook it over the truss out there, you just pull off that tape and wrap it around the keeper so that it stays in the closed position.

SPT Okay.

CC Okay, and then after EV 2 has got the cutters way down there and hooked on to - on to the debris, you then want to - you know, on the mushroom end you've got the adjustable waist tether - there the old Apollo waist tether - and after you've got the far end hooked up, you synch down all the way on that waist tether, and that makes the hand rail going down, which is quite close to the skin, and it makes it very nice for transporting down there.

SPT Understand.

CC Okay, when EV 1 swings over, to position himself on the - on the handrail going down, what we're recommending is that you end up with your belly - EV 1 would put himself on that handrail with his belly toward the workshop and his legs away from the beam; that is, further around toward minus-Z. And that way you go down with your left shoulder toward minus-X and the BET is hooked to your right wrist and trails out behind you and EV 2 guides the umbilical and the BET behind him.

SPT Understand.

CC Okay, so in other words, you go sideways, moving to your left down - the EV 1 will go sideways, moving to his left, down the handrail. And as he gets down into the area of the beam, he's got a very nice view there - almost parallel to the underside of the beam, and you can take a pretty good look at the situation there with the meteoroid shield.

SPT Okay.

CC Okay, now when EV 1 - Oh, by the way, I forgot an important point. Before you start down the beam, as soon as you got - as soon as you got hold of the handrail, what we're recommending is hooking up the large hook that's on the waist tether on the left wrist of EV 1, hook the large hook over the cutter rods and just push it down ahead of you. That is, it slips over the rods and it'll go past the joints, and that way, you're tethered to the rod all the way down.

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SPT Okay.

CC Okay, now when you get down to the end, in order to get you all the way down to the good working area, what we're recommending is when you get to the end of the rods, to take the waist tether off the rod and hook it on to the cutter scissor mechanism. That'll allow you to get all the way down as far as you want to go to look at the area, and also to help you hook on the BET to the aft end of the vent module.

SPT Okay.

CC Okay, and then the next thing is after you've got the BET hooked on to the vent module, and, Joe, after you've taken up the slack out of the BET, then what Pete wants to do is take that tether and hook it to the BET itself. Then your - that's sort of your final tethering point down there, once you've taken the slack out of the BET.

SPT Yeah, I understand, Doc. He's going to be using the BET as his handle goes back up, too. Right?

CC That's correct, Joe.

CC That's affirmative.

SPT Is he going to have some trouble with roll control? You can't really set any torque on a rope.

CC That's right. The way I found, Joe, is just go down hand-over-hand; when you get to the point you want on the rope, don't worry about attitude control. When you get to the point you want - and by the way, you'll be pulling his umbilical end to keep the slack out of it when he does that, you'll - you get yourself belly down to the beam up at that end, and you don't - there isn't any real debris or anything up there that's a worry that much about, at least that we can see. And all you do then is start lifting up on the rope and it'll force you right down against the top of the beam, and it's really not too difficult at all. I was actually positively buoyant at that time, and, nevertheless, had very little difficulty in getting under the BET.

SC Okay.

CC That S13G white paint they've got out there has got a pretty high coefficient of friction, and it's pretty easy to work with. When we were in the water, we were working on slick aluminum; and still pulled it off.

SPT Okay.

CC Then after the beam breaks free, we have one caution there. As the beam rotates up; the mechanism does form an opening there between the moving part of the beam and the fixed part of the beam - the fairing up at the top. It sort of opens up and then closes again as it comes up to

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the full latch. Sort of like a clam shell opening and closing. And so after you break it loose and it starts to come up, you'll probably want to retreat back up to the PAS ring and watch it come the rest of the way up from there. If it needs some help, you're in a fine place to go ahead and - mounting the A-frame - just go ahead and pull in on the BET to help it lock up.

SPT Okay. We won't put our finger in there.

CC That's probably a good idea, too.

PLT Okay, Rusty, is that little hinge door - is that on the high side or the low side of the hinge line?

CC Okay, the door that's open, Paul, is on the moving side. It's on the low side; the latch itself is on the high side - just the little thing that the hook hooks over.

PLT Now, the hinge is angled from - it moves in the plus-X direction as a component. Is it on the more plus-X end of the hinge line or the more minus-X end of the hinge line?

CC Yeah, it's on the low side. The Sun side over there.

PLT Okay.

CC Okay, we've got 35 seconds to LOS here at Guam, and we'll be picking up Coldstone with TV again at 10 - 17:10. And we'd like to - we do have some stuff on the video tape recorder from this morning's M110; and depending on what you'd like to show us, we would like to see your stowage and stuff, but when you're not going to show us something on TV, why don't you let us know and we'll dump it, and we can interrupt the dump any time to come back to real time.

CDR Rusty, we don't have any stowage to show you, and we're starting to work that now, and I don't think we'll have a lot of TV to show you on the next pass here, so go ahead and dump the dern thing.

CC Okay, I'll tell you what. We'll come up dumping it. Just let us know when you want you want to switch to real time.

SC Okay, well, when you're done dumping, switch to real time (garble) camera. Hey, I just made it a deployment of the BET, and I think I have that worked out. I'm using the little bag off the side of the JSC sail that contained the whole thing. And I'll put (garble). You know what I'm talking about.

CC Okay; sounds fine.

PAO This is Skylab Control; 16:55 Greenwich mean time. Loss of signal through Guam. We have 11 minutes of tape that was accumulated during the Carnarvon pass and early portion of this Guam pass while the Medical Briefing was underway.

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Let's roll that tape and then go live for Goldstone and the upcoming stateside pass.

CC Okay, Sky troops, we've got you over Carnarvon for 10 minutes, and Ed's got some cutting techniques for Joe.

SPT All right. Tell the deft surgeon's fingers are proceed.

CC Okay, Joe. The easiest - quickest way to get through the metal, even though it seems a little frustrating as you do it, is to give a steady pull on the line for around 2 to 3 seconds. It takes a little while for the rope and the linkage to all respond and for the cutter jaw to creep through the metal. Then just relax and then have another go at it and another 5 or 6 seconds, hold it for 2 or 3 seconds and if Pete's down there at the other end he might even want to move the cutter around a little bit so it can work its way through. You really don't have any feeling when you're pulling that rope that it is going through yet no sensation whatsoever so it seems a little frustrating. Pete might be able to see the progress of the jaws through the metal down there and tell you what's going on but all you've got to do is just have patience and keep pulling for 2 or 3 seconds back off and then just keep it up that's the easiest way and all of a sudden you'll snap you right through. We've gone through - I've gone through it twice in the water and I tried one time standing up with my axis of my body parallel to the discone antenna and that's a pretty inefficient way because you really can't apply much force for a period of time before you just pull yourself right on down the - towards the beam. The best way as we point out was to hook your toes over and you can get a whale of a lot of force like that. It's kind of like chinning yourself on a rope.

SPT Could you use a lot of force?

CC With my toes over, I could use a whale of a lot of force. Yeah, I was estimating I was putting in maybe a 100 to maybe 120 pounds or so and I might have been able to put more on it if I'd really made a little larger V out of my body in order to keep my toes underneath the SAS.

SPT Okay, about how many pulls did it take?

CC Okay, using the technique of putting my feet underneath the FAS I never went end to end on that one. I finished off a cut which I had started with the old technique and it took around two pulls once I got my feet, my toes by the FAS. One word on when you first hook it on, you don't want to try to go through it there. It only takes maybe 30 - 40 pounds of pull for - just to cinch it up and make it snug. If for some reason you do cut through or even if you can't go down that - on the strap at all just find you another piece of debris and hook it on there. All we need is to

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secure that other ending anyway you can.

SPT Yeah, well that's why I asked how many pulls it took to cut it. I wanted to have a feel for how hard I can dig in that first time.

CC Okay. I'd be surprised if you went through in two or three seconds pulling with maybe 50 to 60 pounds. I suspect you're going to have to do that half a dozen to a dozen times.

SPT Okay, fair enough. Let me ask you this, based on your most accurate knowledge, how much extra length is there in that pole? How much am I going to have over my shoulder?

CC Joe, you're asking how much rope you're going to have left over from the mushroom on - is that correct?

SPT No. That's a matter of how I rig it. I'm asking how much pull I've got left - let's say from the edge of the FAS on - in other words how much more pull do we have than we need?

CC Okay, you've got just about a foot or so. It extends just a little bit over the ring of the FAS.

CC Joe let me point out that you can control that to a certain extent because the strap angles up across the beam. If you hook on to the bottom edge of it - it's closer to you - you'll have more hanging over the FAS if you hook on nearer the top you'll have more. Right about the middle of it from the photos you've got about a foot back of the FAS ring now.

SPT Okay.

CC If you're thinking of using the mushroom, Joe, I tried that and found it a little bit hard because you only find yourself torquing your body right around the mushroom itself and never really being able to get a good secure hold on it. There is no way you can keep from torquing your body about the center of the mushroom when you're pulling.

SPT I believe that. I was thinking about where that little cleft was going to be in reference to my precious little head.

CC Yeah, that's - in fact that'll be back down there by your feet or so at that point.

SPT Okay.

CC Okay and for Pete let me say a couple more words about the timing here. We are planning at the present time to have not just the EVA lights on but also the docking lights and there is a docking light about plus Y and - let me look at it - at minus Z and minus Y on the FAS ring and we feel that those should light the area out there near the A-frame. So what that'll do is enable you to get to the point where Joe is ready to lay the pole down alongside the beam. At that point

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we're saying why don't you halt there and wait for sunrise. Now if the docking lights are either unnecessary and we can turn them off to save power or you're ready - you're already in position and it's still prior to sunrise we'd like to go ahead and turn off the docking lights. Also, if for whatever reason it takes longer than the day pass to cut through the strap and get the beam raised, we would like you to return to the lit area, that is back toward the FAS, normal EVA work pass - during the night pass. Now, since we have some activities down at the front end pinning the 54 door open and changing out the 82A film you may just want to, in case of that situation, you may just want to do that during that night pass rather than just cooling it. But that's your choice. We do have four hours and there's plenty of time to do it all.

SPT Roger, understand. I guess there will be some details about 82A on the teleprinter. That's pretty low on our priority list. The 54 thing I take it is just a matter of unpinning, opening and making sure that it locks open, is that right?

CC That's correct. The 54 door will already be open, it's a matter of unpinning and opening it another 10 degrees up against the stop and then lifting that little latch that holds the door open, Joe.

SPT Okay are you going to teleprint a proper roll for that?

CC Right. What we're doing - that is going to be on the pad and all we do to it is go to minus 120 degrees on the canister roll during the prep. That's essentially the normal attitude for the 82A replacement, Joe, you should see essentially a normal front end when you get down there.

SPT Okay, that's nice. Okay, and we understand about the lighting.

CC Okay, let me just tell you what our whiff experience has been over the neutral buoyancy tank. We ran the whole exercise end to end - took an hour 37 minutes from hatch open to hatch closed. That included perhaps 10 to 15 minutes in the middle of the run taken out for buoyancy problems, reweighting and that kind of thing. And also we lost some time because we cut through the straps three different ways rather than just using the first way that worked. So we feel that you will be able to do the preps and get in position to lay the beam down with plenty of time before sunrise and then we feel you'll be able to do the strap cutting and the beam raising well before the next sunrise or sunset rather, but as I say we do have four hours so there's lots of time and the main thing is remember Dick Gordon (garble) -

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SPT Yeah, you might find that our attitude differs a little bit from yours in the water tank. We're going to have to take care at every step to watch where the umbilicals are, and where the tethers are and to keep our options open. I rather expect and I'd like to be pleasantly surprised that it may take us two day periods to get all this done.

CC Right, we have prepared for that, Joe. And we don't expect that it will but you guys are the judge and the best thing in the world is to go slow and do just what you said.

SPT That's right. I guess we'll know better when we see it but our initial impression is that we've got a 50-50 chance of pulling it off and even if we don't we'll have a fine reconnaissance for you and some real good words on techniques and possibilities for another try later on.

CC Right, that's just the way we figure it except we'll give you a higher probability. And we're about 30 seconds from LOS. We've got Guam coming up at 45 and we would like to talk to you sometime about techniques on handling the - where to put the umbilicals and the tethers and that kind of thing.

SPT Okay, we'll be here.

CC Okay, Pete, now I have one word for you on maybe the best location to put those vise grips on the FCU.

CC Okay, Skylab, Houston back again over Guam for something like 10 minutes.

CDR Okay.

SPT Talk umbilicals.

CC Okay, Joe, when you guys first get out EVI in the foot restraints and you take the BET out and stow it there on S7 handrail, assemble the tethers and all that, your EV pass will be - we have passed this up but you can remember it - F9 and F11, the two short handholds up in front of the hatch that we've never used and from there you go along that - the silver tape MOL SIEVE vent duct that goes - that runs right along the MDA there and you just hand over hand there underneath the DA trusses; you know, right along the MDA until you get to the area of the A-frame and you just push yourself up. It's about a 5 foot reach. And you just go from there directly to the A-frame. In other words, your umbilical comes along the MDA through the trusses and then up to the A-frame. EVI will take the same path. And also when you pass the poles from the FAS; when EVI passes the cutter up to you he also does that through the trusses - that is up underneath the trusses and when you get hold of it there you'll run it out - you'll receive it and run it out to the

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mushroom almost parallel to the discone antenna.

SPT (garble)

CC Okay, (garble) one point on that when you do first get out there you do want to tether yourself as opposed to mounting the A-frame. You can stand on that A-frame once you've got the tether in place and one thing we sure learned from the water is that we've got real luxury in the way we've designed the ATM film retrieval with all the good foot restraints, once you don't have those things you've really got to tie yourself down well and do it early, and do it religiously.

SPT Okay.

PAO This is -

END OF TAPE

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PAO

This is Skylab Control. That concludes the playback of tape accumulated over the Carnarvon and a portion of the Guam pass earlier in this revolution. The 2-minute warning warbler has gone off in the control room, for acquisition at Goldstone. And as I gather the situation on television, the earlier VTR recording of the M110 blood sampling TV-4 will be played back first and then possibly the crew will switch back the - to the live TV camera. And we're about a minute away now from acquisition of Goldstone. And we'll stay up live through Mila loss of signal on rev 333.

CC Hello, sky troops, we've got you through Goldstone for 16 minutes.

CC Screwing up your courage, Pete?
SC We're here, guys. We're just screwing around, getting fixed up.

SC Okay. Do you have any good words?

Speak.

CC You want to listen while you do scurry around there?

SC

CC

Yes, sir.

Okay, Pete. There are 2 other things which we'll be mentioning, reminding you of tomorrow - just 2 things while you're out there, we want you to take a look at, not be going anywhere, but just look at them. One, I've already mentioned which is QUAD A on the CSM. And that's because the temperatures are running a little bit high and we just want your comments on whether there is any discoloration or anything of that kind around it. The other one, you might, want - PJ knows where it is, but you might want to look at it on that SWS map, and that is while you're down there in the region of the SAS beam we'd like to have you look over at the forward umbilical connection point, which is just above the OPS tunnel. What we're doing there, is just looking at it to see whether or not there's any debris in that umbilical connection point. If we have to do anything on Skylab III and IV in a way of plugging in any auxiliary electrical stuff, the guys are looking at using that forward umbilical point to do so. So, it's just a matter of looking at it - taking a look at it and say it does or doesn't have any debris around it.

SC

Okay.

CC And as I say, we'll remind you of that tomorrow, we just didn't want to surprise you with it.

SC

Rog.

CC

And I think that we've just about completed the - everything we wanted to make sure and talk with you on the data. I guess Ed's got one more, but I think we can sort of sit back and use the rest of the pass here, aside from your scurrying around, we can use the air-to-ground just to answer any questions either on technique or hardware or whatever you've got remaining.

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CC One thing for you, Pete. The folks down here have looked at the optimal place to put vice grips on a flange for the PCU, and recommend right above the red 1 low flow. That gives you no obstruction on the controls and also from our standpoint, gives you no obstruction while you are moving around EVA.

SC Joe and I figured we'd put them on the blue hose.

CC Okay. We really didn't have any use for the chose vice grips out there, Pete. We figured they were just a pretty generally useful tool and that's the only reason we included them on the list.

SC Yeah. We agree.

SC (garble)

SC He say's to tell you that's his tetner bag.

CC I'll tell you what, Joe. I spoke just a bit to early. INCO is back on the dump VTR, so hold on if you want to show us something.

SC Okay.

SC How long did it take you to put - -

CC Okay. As part of the prep here (static) we've got is mounting the - -

SC (Inaudible)

CC Say again.

CC Okay, Skylab. We're back in contact now through MILA. The Texas antenna had a little ruin with a thunder stone last night and isn't tracking too well today. Paul, you were asking some question there right at the end, would you go ahead.

SC Been so long ago, I forgot.

SC Hi, down there. It looks like a nice day.

CC Yeah. It got kind of bad, last night though. Anybody up by the ATM C&D?

SC Negative.

CC Okay. We're in no rush for this, but when somebody gets a chance up there, we'd like to read out during a daylight side, that's when we've got the sun up, REG volts and amps, BAT volts and amps, and BAT temp on CBRM 17. You can call down for a reminder on that, if you'd like, later.

SC Okay. I'll get it for you in just a few minutes.

CC Okay. There's no big rush on that. One other comment on the preps. We've looked at the TV - setting up the TV down here for the EVA. And what we're

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recommending is mounting a monitor on the top of the TV camera with the screen facing the lens. That is, say you're looking at the screen and the lens. That way, I think the screen will be out of the sunlight when you're facing the back toward the parasol. And it looks to us as though you can mount the universal bracket on either left or right shoe, whichever seems to be the most convenient for you. And on X Y Z settings, we don't have any. It looks like you guys are going to be the best judge of where to point it. And for your information we are back on real time TV and we've got Joe working on his suit, there. And Pete, we've got your bag in view there. As a matter of fact, that's a lot more clever than we were in the water tank.

SC Oh, I remember what I was talking about. Prep time; what's the accounted? What we put in on this last night from starting - essentially gathering stuff up until we'd pretty much got it together, not counting the refinements that were made today, we've got about 10-man hours in it, we figured.

CC Okay.
SC Where's the hurricane?
CC Stand by, Paul. We'll get that for

you.

SC I thought it was now, Rusty. Never mind.
CC It's still in the Pacific.
SC Oh, the hurricane's in the Pacific, now?
CC A Rose, by any other name.
SC Yeah.

CC Okay, Pete. We're seeing your vice grips, they're hooked on. Can you tip it down just a little bit? Okay. That's just exactly where we're recommending, right. And you can sort of lay it back right up against your chest, Pete. It keeps it from snagging.

CC Paul, it looks like it's about 12 north and about 110 west, just a little bit east of that. Maybe 108 west.
SC Okay. What do you want on CBRM 17?
CC Okay. We'd like to have ah - -

END OF TAPE

SI-11 MC599/1

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CC That may be 108 watts.
SC Okay, what do you want on CARS 17?
CC Okay, we'd like to have the reg volts
and amps, bat volts and amps, and bat temp.
SC Okay, reg volts is what apparently is
our standard no good values of 22-1/2 volts, plus 5 amps.
CC Okay.
SC Bat volts is 36, 36, bat amps is plus 7,
bat temp is 52, 52.
CC Okay, we got it. Thanks PJ.
CC Okay, and Pete, one thing we'd like you
to do is think over what your situation is here and basically
what the task is and we'd like a recommendation from you
sometime say within the next 2 hours on - on what your status
is and what you're recommending as far as going ahead with
it for tomorrow or Friday.
SC Well, listen Rusty there's no doubt in
my mind that the sooner we get it done the better off we
are because it's going to take us two or three days to
recoup. We've just about had the place cleaned up and in
shape and a nice routine going, and we just wiped that out
and demolished the place again. Unstowed everything and -
So I know we're going to be tired when we get done and I know we're
going to have to put the vehicle back in some semblance of shape.
And, of course, ya'll want to play with it a little bit if
we - if we are successful. So we'll shoot for going tomorrow.
CC Okay. Understand that you feel that
you're GO for tomorrow. We do have EVA prep for tonight, so
if there is any difficulty in setting that up, just let us
know.
SC No, Joe (gattle getting into the
suits, that's a piece of cake. We're - Paul's putting the
changes in right now in a manner that we can recover from
the changes for the next EVA. And I just finished working
that tether bag and I'm going to go start the - continue with
the work toward EVA until our time period ends. On EVA we'll
go back to it tonight.
CC Okay, fine. The one pad we got to get
up to you aside from the unavoidable changes between now and
then, but the one we know we're going to lend up to you is
the procedures for the 82A, the 54, and the TV. And that'll
be coming up on a pad and you can take a look at them.
Those are the kind of thing where Paul would be reading
EV1 do this, EV2 do that.
SC Yes, well, let me just caution you.
There is no doubt in my mind as you mentioned, that we
could get bombed like we did in Gemini 11. And if we do a

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flailing around out there I'm sure that we can run out of gas pretty easy. So I think you'd better figure if we're unsuccessful in the first hour and a half, we're probably not going to get the job done, and I hope we haven't worn ourselves out to the point where we can't go ahead and do 82 with all other good things, but recognize that they are. In my mind, the the low priority. The difficult task is to do this beam and I'm afraid I - I'm probably not quite as optimistic about it as you guys are. Of course, you've done a lot more work on it than we have, but we'll give her a go tomorrow. I - I'm pretty sure we under - out the window. We're going back and smoke them over again and talk about it some more. And I think the biggest thing depends on Joe being able to get the pole hooked onto something. There's number 1 and 2 either cutting it or me cutting it or however that works. And I hope there isn't something else holding it besides that strap.

CC Yes, sir, those are all - those other things are all low priority, we recognize that. We're now in LOS and be picking you up at 36.

SC (static)

FAO This is Skylab Control; 17:27 Greenwich mean time. Loss of signal from the Mila tracking station. An 8 minute gap to a brief pass along the northeastern segment of the Vanguard tracking circle. Seven minutes total time at Vanguard and then there's a long dry spell of about an hour and 8 minutes before Goldstone. Again we missed Carnarvon and Guam all together on this rev. Number 331 - 333 I beg your pardon. Back in 8 minutes with Vanguard tracking ship. At 17:28, Skylab Control out.

END OF TAPE

SL-II MC-600/1

Time: 13:34 CDT, 13:17:34 GMT
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PAO This is Skylab Control; 17:35 Greenwich mean time. Acquisition of signal at Vanguard in about 40 seconds. The warbler here in the Control Room running a little bit late, at least in relation to the AOS clock. Seven minute pass here over Vanguard - Vanguard Tracking Ship.

CC Skylab, Houston. We're AOS over Vanguard for the next 7 minutes. Did you have another question for Rusty?

SC No, not right now. I got a couple of questions about the changes to the EVA checklist.

CC Roger.

SC Okay, on page 1.2-7 --

CC Go ahead.

SC -- I assume that the things in the pink bracket that are crossed out, we now do. Except the things that are not crossed out, which we cross out and don't do. Is that right?

CC The things that are crossed out in the pink brackets, you will do. Say again the last.

SC Never mind. I know what I said - that's what I mean.

CC I hope you did.

SC On page 1.2-1, could - -

CC Stand by, Paul. On 1.2-7, the one that you do not do is the one in the middle pink bracket - Remove cap from ECS return dump, and stuff --

SC That's what I said. That was my last second part.

CC Ah, good. Thank you. Go ahead with the next page. What was it?

SC That's what I say. We do the ones that are crossed out, except for the ones that aren't crossed out, but we cross them out and then don't do them.

CC Yeah, we got you. Go ahead. What's the next page.

SC 1.2-1.

CC 1.2-1. Go ahead.

SC I assume I go to S1 and then add those other switches, the rate gyro, the fine Sun-sensor, to that block. Is that right? Under C&D panel config?

CC That's affirmative.

SC Okay, that brings me up to date. If I have any more questions, I'll ask you later.

CC Okay, we probably will have some modes ourselves coming up that we know of now, but we're trying to get them organized before we let you know.

SC Okay. And I would like someone to keep track of all these changes, so that we can go back through and take them out. Because I assume that after this

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EVA, and before the normal (garble) EVA, we're going to delete all the changes. Right?

CC Not all of them, because we probably, if this works out, will be using the aft compartment. In fact, let me say a word about that. You just reminded me of something I did miss. We are planning to use the aft compartment here. However, we do anticipate that we will still have some leakage to it. We are setting limits on that, and just for your information, in case we see the workshop pressure coming down significantly, we may have to ask for you to get back in and close the aft compartment hatch. Now we do not anticipate that, but I just want to let you know that we are looking at the OWS pressure during the EVA.

SC Okay, now a counter proposal for that is - how about if we make a little flapper to go over the equalization valve inlet so that the pressure going up against the hatch from the inside will feel it, but that they ought to lift off, say, one little piece of gray tape from coming the other way.

CC Stand by just 1.

SC And we can make that out of cardboard or a piece of flat mosite out of the ESS or almost anything.

CC Stand by just 1.

SC Okay.

CC Okay, I assume, Paul, that you are talking about the check valves - not the equalization valve in the (garble).

SC I think so. I'm talking about the only two that we got access to from the inside.

CC Right. Stand by just 1.

CC Okay, if you can make them a flapper, rather than put tape directly across them, that sounds pretty good. The problem is that we will be raising the lock and forward - and aft compartment pressure after the crew gets in there, due to the PCUs flowing. And we did not want to put tape across it for fear we would end up locking those check valves from their normal relief function.

SC Yeah. What I mean is a piece of cardboard or mosite on there, taped loosely with tape so that it'll be seated with pressure - bigger pressure on the inside. But anything coming in on it ought to unseat it - you know, a couple of inches of water, or something like that.

CC Everybody here has got their thumb up.

SC Sounds good. Go ahead.

CC Okay.

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CC Okay, Paul, if you still read, we would like to just let you know that we are not sure that it is, in fact, leakage through the check valves. We think that's probably the case, but it could be leakage elsewhere. And this will give us - if your little scheme works, it would give us a good check to see whether it is.

SC Okay. And, Rusty, we're going to keep working - We'll try and get everything - the important things done on the Flight Plan today. But we may drop some of these incidentals. I haven't really had a chance to look at it, but as you well know, you may be able to do it in an hour on the ground, but you've thrown a lot of changes at us, and we got a lot of reconfiguring to do here. And we're trying to think our way through it as we go and be a little bit slow, so that we don't back ourselves into a corner. Okay?

CC Yeah, no sweat.

CC And, Skylab, we're about 30 seconds from LOS. We won't have you again until Goldstone at 18:47 - till an hour.

SC Okay.

END OF TAPE

SL-II MC-601/1

Time: 13:44 CDT 13:17:44 GMT
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CC And for your information we will be doing a data dump on that Goldstone pass.

PAO This is Skylab Control, 17:44, Greenwich mean time. LOS of signal through tracking ship Vanguard. Next station an hour and 2 minutes away, Goldstone. During the stateside pass, earlier in this revolution, the crew inquired about Hurricane Ava, and it's location. And during this next sweep along the western seaboard of North America and Mexico that they will have an opportunity to look a little farther west at this hurricane. A rare combination of events will allow Skylab astronauts to record wind sea surface conditions produced by the season's first hurricane, Ava. As a National Oceanic and Atmospheric Administration C130 research aircraft flies through the 120 miles per hour winds. The hurricane, which formed in the Pacific Ocean, west of Central America, is not directly under the Skylab spacecraft and there will not be enough time to permit a full scale Earth Resources pass today. A full scale pass requires an attitude change to point the EREP sensors at the surface of the Earth beneath the spacestation, but two factors will permit EREP data to be gathered for three separate scientific investigations without reorienting Skylab. The hurricane is located just a few hundred miles south of the place where the Sun is directly over the spacestation, so the EREP sensors directly opposite the Sun pointed solar telescope are very nearly pointed directly at the Earth. In addition, though the eye of the hurricane is several hundred miles to the southwest of ground track 49, the microwave radiometer scatterometer altimeter S193 is able to look nearly 300 miles to either side, while the S193 scans the ocean, Science Pilot Dr. Joseph Kerwin will make handheld photographs of the hurricane out of the window, using a 70 millimeter Hasselblad camera, with a 100 millimeter lens. The EREP operations today will last only 5 minutes, with the S193 turned on as Skylab crosses the southernmost point of Baja, California at 01:55:30 p. m. central daylight time, and the pass completed in the Pacific Ocean due west of the Panama Canal Zone at 02:00:30 p. m. Central daylight. Skylab spacestation will pass nearest to hurricane Ava, which is about 700 miles southwest of Acapulco at 01:58:20 p. m. central daylight. Duncan Ross, a NOAA researcher, who leads one of the three scientific teams interested in receiving data from the hurricane pass is aboard the C130 hurricane chaser. The aircraft, which took off from Ellington Air Force Base in Houston at nine this morning, assisted in complementary data acquisition yesterday for the fifth EREP

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pass. The C130, which carries several scientific instruments including a laser profilometer to record the heights of waves, will land at Acapulco to refuel. The added weight of fuel provides increased stability, so the plane can fly into the eye of the hurricane. In addition to Mr. Ross of NOAA's Atlantic Oceanographic and Meteorological Laboratories in Miami, principal investigators using today's pass will include Dr. J.F. Hollinger of the U.S. Naval Research Laboratory in Washington, D.C., and Professor Willard J. Pearson of New York University. The three scientists and their supporting research teams are investigating the relationship between winds, clouds, waveheights, and other sea surface characteristics as part of the oceanographic studies made possible by the first manned Earth Resources laboratory in space. 17:49 Greenwich mean time. Fifty-seven minutes, almost an hour to next station pass, which will be Goldstone and hopefully we will have some eyeball descriptions of hurricane Ava as Skylab space station sweeps down the western coast of Mexico and South America on revolution 334, the end of 333 and the beginning of 334. 17:49 Zulu, this is Skylab Control out.

END OF TAPP

SL-11 MC602/1

Time: 14:42 CDT, 13:18:42 GMT
6/6/73

PAO This is Skylab Control; 18:41 Greenwich mean time. Still about 5 minutes away from acquisition on stateside pass and possible sighting of Hurricane Ava off shore from Acapulco, Mexico. At 2:30 p.m. central daylight time this afternoon, Skylab backup commander, Rusty Schweickart, will conduct a briefing for news persons on EVA procedures, running over the EVA schedule for tomorrow. To repeat again: that's at 2:30 p.m., Houston News Room, small briefing room. Rusty Schweickart, backup commander, will go over the EVA procedures that have been worked out and discussed with the crew by Schweickart during the day today. Back again in 4 minutes for Goldstone-Texas pass, the final stateside pass of the day. Skylab Control out.

END OF TAPE

SL-II MC-603/1

Time: 14:45 CDT, 13:18:45 GMT
6/6/73

PAO This is Skylab Control, 18:45 Greenwich mean time. A minute and a half away from acquisition at Goldstone according to the AOS clock at any rate. 2:30 p.m. Central Time, Rusty Schweickart who is Skylab backup commander will hold a briefing on EVA procedures in the Houston newsroom. Standing by to confirm acquisition of final Goldstone pass of the afternoon. We do have acquisition at Goldstone.

CC Skylab, Houston. We are AOS over the states for the next 13 minutes. For the next 13 minutes.

SC Roger, Houston.

SC Is that, Houston, CDR out keeping 10 a1fas in work.

CC Roger.

CC And by the way, guys, we are doing a data dump on the recorder this time.

SC Okay.

SC Okay, Houston. We just want to verify you do want the amplified pictures of the wardroom window and not the 190 windows, that right?

CC That's affirmative.

SC Okay.

SC Very well I'm going to take two and try and get stereo. That (garble)?

CC Skylab, Houston. I missed your last second.

SC Alright, sorry Houston, I was talking to the rest of the crew.

CC Oh, sorry about that.

END OF TAPE

SL-II MC-604/1

Time: 14:53 CDT, 13:18:53 GMT

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PLT - enormous spiral, Houston. It covers the whole window. We won't be able to get it all on (garble)
CC I understand the spiral covers the whole window.

PLT And it has a small, very well defined (garble) eye. It's like an artist's conception of a hurricane.

CC Rog. I understand a well defined eye.

PLT Earlier, you sent me your readings. Alfa 9 is oscillating between 5 percent and 45 percent. Bravo 9 is hanging in there at about 58. Then Charlie 9 is oscillating between 50 and 90. Now Alfa 9, even though it's oscillating, stays at the lower end most of the time. And Charlie 9 stays at the upper end.

CC Roger. Copy, Paul.

PLT Houston, we're not getting any of the clouds associated with a hurricane on the RAD/SCAT. I think we're over open water right now at the beta just on the very end of it.

CC Okay, we copy.

CDR The eye in that thing is fantastic to look at - it's completely almost open in the middle of it.

CC Roger.

CDR And you can see blue water in the center of it and it must have a straight row of clouds that goes clear up to 35,000 or 30,000 feet right on the sides of it.

CC Skylab, Houston. We're 1 minute until LOS. We won't have you again until 19:13, 19:13.

PLT All right.

PAO This is Skylab Control 19:00 Greenwich mean time, loss of signal through Texas. As the Skylab space station overflew Hurricane Ava. As the crew spotted it from the space station window they reported that it was an enormous spiral that fills the whole window, but it had a small well defined eye. Pete Conrad came on the squawk box and said that the eye was open enough to where you could see water all the way through the eye with walls of clouds extending up around the perimeter of the hurricane's eye from 30 to 35,000 feet in altitude was his estimate. Eleven minutes to acquisition of signal at tracking station - tracking ship Vanguard. And shortly after Vanguard, a loss of signal at 2:30 central time. Skylab backup Commander, Rusty Schweickart, will meet with news persons in the Houston news room to conduct a briefing on tomorrow's EVA - how it will be done - what tools will be used and will include a replay of - a video tape made of Rusty and Ed Gibson in the neutral buoyancy simulator at Marshall Space Flight Center two or three days ago as he worked out procedures, checked the feasibility of tomorrow's EVA. Back again in 10 minutes for Vanguard At 19:02, Skylab Control, out.

END OF TAPE

SL-II MC-605/1

Time: 15:10 CDT, 13:19:10 GMT
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PAO This is Skylab Control 19:10 Greenwich mean time. 2 minutes away from acquisition at Vanguard, tracking ship Vanguard. Seven and a half minutes acquisition time across Vanguard on this 334th Earth revolution. Next station after Vanguard will be Hawaii in about an hour and 3 minutes after Vanguard LGS. Meantime Skylab backup commander Rusty Schweickart will conduct a briefing in the Houston newsroom on tomorrow's EVA at 2:30 p.m. Central Daylight. Standing by now for - the tracking ship Vanguard pass and further conversation between Bob Crippen CAP COM and Skylab space station crew.

CC Skylab, Houston, we're AOS over Vanguard for the next 16 minutes.

CDR Roger, we must be going -

CC Sorry about that, wrong time on it - it's for the next 7 minutes - 7 minutes.

CDR Roger.

CDR Houston, we were hoping to get a good shot of Buenos Aires, but that unfortunately it is just barely under the edge of the clouds.

CC Roger.

CC Skylab, Houston, we're 1 minute until LOS and we won't see you again for about an hour at Hawaii at 20:21 - 20:21.

CDR Aloha.

CC Roger.

PAO This is Skylab Control, 19:21 Greenwich mean time. Lose of signal as the space station went over the horizon from tracking ship Vanguard on revolution 334, next station an hour from now, Hawaii. About 6 minutes from now at 2:30 Central Daylight Time, Skylab backup commander Rusty Schweickart will conduct a briefing on EVA procedures and equipment for tomorrow's EVA to deploy the Solar array panel on the side of the orbital workshop. The broadcast line will be taken down during that briefing and any station passes by Skylab will be recorded for delayed playback at the end of the press conference. 58 minutes away from Hawaii at 19:22 Greenwich mean time. Skylab control, out.

END OF TAPE

SL-II MC-506/1

Time: 15:44 CDT, 13:20:44 GMT
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PAO This is Skylab Control, Greenwich mean time 20 hours 44 minutes as the spacecraft concludes its 334th revolution. We are expecting acquisition over the Vanguard tracking station. During the press conference with Astronaut Rusty Schweickart we had approximately one and a half minutes of air-to-ground over the Hawaii station, during which time Cap Com, Bob Crippen discussed with the crew a telegram sent to the Mission Control Center by former Astronaut James Lovell, who congratulated Commander Conrad on beating his record. The telegram read: "Congratulations on beating my record. If you need help, I'll send a tugboat." This is Skylab Control at Greenwich mean time 20 hours 45 minutes. We'll run that tape from Hawaii now, and then hold up for Vanguard.

CDR Go ahead.

CC Okay. To conclude some of the problems we've been having with the thing tripping off because of the detectors - at the conclusion of this pass we would like you to put the S055 MAIN HIGH VOLTAGE switch to OVERRIDE, and then if we ever get any - things trip out well you will get the light but the other detectors will keep running.

CDR Did you say the high voltage from ENABLE?

CDR There is what?

CC And Pete, I've got a telegram here for you. I might as well read right now. It reads: "Congratulations on beating my record. If you need assistance I'll send you a tugboat" Signed Jim Lovell.

CC Skylab, Houston. We're one minute to LOS. We'll have you again at Vanguard at 20:49, 20:49.

CDR Roger, Houston.

CC And Skylab, we will be doing a data dump for the recorders over Vanguard.

CDR Okay, Houston and we just lost a Z-gyro.

CC Understand. Lost a Z-gyro.

CDR In redundancy management now.

CC Okay.

CDR Yes.

CDR (Garble)

END OF TAPE

SL-II MC-607/1

Time: 15:47 CDT 13:20:47 GMT
6/6/73

CC Skylab, Houston. AOS over Vanguard
for the next -
CDR Hi there Houston. Are you there?
CC Rog. We're here for about the next 9 minutes,
Pete.
CDR Okay. When are 2 GYROS? Change his mind
again?
CC Apparently. We're taking a look at
it right now.
CDR Okay.
CC Skylab, Houston. Skylab, Houston. We
had an indicator problem with Z-1. We're going to put -
but it apparently is gone now, and we're gonna put 1 and 2
back in control, and we're gonna go ahead and turn on 3,
so we can have it as a backup. God damn it.
SPT (laughter) You having a few problems
down there?
CC Look who's talking. Rog.
SC (garble)
CC Say again.
PLT Just wondered if you were there. They're
dumping the tape recorder. Take three numbers for me, Bob,
will you?
CC Go ahead.
PLT Okay, on the MI71 on the SPT the
percent O2 is 72.10. 72.10. Percent water is 5.19, 5.19.
Percent CO2 is 1.92, 1.92.
CC Rog. Copy.
CC PLT, Houston. If you've got a minute
now, you can, well, cancel my light.
CC And Skylab, Houston. We have sent
you some additional teleprinter pads regarding EVA. There
are two - Charlie two pages on it. The first is bad, dis-
regard.
CDR Okay.
CC Skylab, Houston. We're 1 minute til
LOS. We'll see you again at Hawaii at 21:57, 21:57. We
have reconfigured the RATE GYROS.
CC Skylab, Houston. I don't know if you heard
my LOS call, but we're going LOS now, and we'll have you again at
Hawaii at 21:57, 21:57, and we have reconfigured the RATE
GYROS with 1 and 2, and we haven't got 3 up to speed
yet. We'll get that over Hawaii.
SC Okay. Fine.
PAO This is Skylab Control, Greenwich mean
time 20 hours and 59 minutes. On the previous pass over
Vanguard Capcom Bob Crippen discussed with the ground that the
problem with the RATE GYRO has - looks okay now. They put

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one and two back on line and will use number 3 as a backup. There are three gyros in each axis. The CMG, the control moment gyros subsystems provide three-axis attitude control. There are nine RATE GYROs total in the vehicle. The discussion earlier over Hawaii was concerning the fact that Commander Pete Conrad had surpassed astronaut - former astronaut Jim Lovell's record of 750 hours and 5 minutes in space. Commander Conrad beat that record on June 3, at 2:17 a. m. central daylight time. Conrad now has four missions under his belt. Former Astronaut Lovell had four, Gemini 7, Gemini 12, Apollo 8, and Apollo 13. Next acquisition will be over the Hawaii tracking station in 56 minutes. At Greenwich mean time 21 hours, this is Skylab Control.

END OF TAPE

SL-11 MC-608/1

Time: 16:55 CDT, 13:21:55 GMT
6/6/73

PAO This is Skylab Control, Greenwich mean time 21 hours 55 minutes. We anticipate acquisition of signal over the Hawaii tracking station as the Skylab crew is scheduled to start EVA preparations this evening for an hour and a half for Thursday morning's scheduled EVA to repair the solar panel on the orbital workshop. We'll hold the line up live for Cap Com Bob Crippen.

CC Skylab, Houston. We're AGS over Hawaii for the next five minutes.

SC Roger.

CDR I looked at those TV sketchy procedures and I don't like them. I have the feeling that I would prefer right now not even to mess with the TV, and if we try and do anything at all it's get a camera outside. Maybe the 16 DAC or something we're used to handling out there.

CC We've got Rusty standing by here, maybe I can let him comment on that.

CDR Okay.

SCHWEICKART That's what you call passing the buck.

CDR Well, I got to be honest with you Rusty, I don't like them. You're asking us to go back in and hook up the camera with the wires not hooked up and then you want to send the thing out on the boom and get the wire and that wire is just terrible. We have a hard time messing around (garble) that stuff in here. And I just think we're asking for trouble. We're liable to lose the one TV camera we got left.

SCHWEICKART Okay, Pete. Let me tell you one reason why that was requested by NASA. Hold on just a second.

CDR I know it gets the data to you the fastest but - -

SCHWEICKART Stand by, Pete. We'll (garble)

CDR - I really don't like it.

CC CDR, Houston. Apparently we've - the star's drifted off and we'd like to see if we could reacquire that. Let me see if I can get them to give you some good gimbal angle for right now.

CC And Skylab, Houston, I did have some comments. We are sending up your flight plans for tomorrow. You'll notice - well it's not obvious in this one, but we are planning on a couple of ATM passes in the pre-sleep. In fact the plan is there now. Now, those ATM passes are going to be kind of at your option. If you can't - don't feel like you can do them well, we'll go ahead and do unattended OPS.

CDR What's this? Tomorrow night?

CC That's affirm.

CDR Okay.

CC Also, I guess I'd like to - if you can copy

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Time: 16:55 CDT, 13:21:55 GMT
6/6/73

down. I had a couple of items here for pad modifications that we have sent you today.

CDR Go ahead.

CC Okay, pad number 1317 Alpha, deals with setting up the ATM the C&D for unattended operations post-EVA. We would like you to add to that to set CANISTER ROLL to plus 5400, that's plus 5400.

CDR Okay.

CC Okay, and also, just as a verbal reminder, in the C&D setup for EVA prep it has you make sure that all the doors are closed. We do not want to close the S054 door which is probably obvious to you.

CDR Yeah.

CC Okey doke.

SPT Hey, Crip?

CC Go.

SPT That's 154 item roll was in the post-EVA panel reconfiguration for unattended OPS, is that right?

CC That's affirmative.

SPT Okay.

SPT Go ahead with the star tracker pad.

CC Okay. The star tracker gimbal angles we'd like you to put in are: INNER GIMBAL ANGLE a plus 0029, and OUTER a plus 1481.

SPT That's still friendly Achernar?

CC Yeah, that's affirmative.

MCC And Pete, let me say just one thing on the rationale here, and there's no question. If it looks like when you get to do it, that that cord is too hard to handle or whatever, we - use your own judgement on it. The rationale behind it rather than a DAC is that with the TV down-link we can get an assessment with the color quality of the what the sail is doing and thereby make a better decision of whether to put out another sail before you all come back. Whereas with the DAC we'd have to bring it back with us.

CDR How much of it do you have to see, Rusty? I can give you color TV of the sail from the command module window. Of the orange.

SCHWEICKART Okay, let me pass that on up, Pete. That's all I can tell you right now. I'll take that higher and find out what recommendation is.

CDR Okay. Man oh man, I tell we've been - we're slowly getting behind the curve on tomorrow because we're trying to rig the airlock now, and boy try to stick a TV camera in here with all that wiring and we got gray tape all over everywhere and I'm not convinced half of it is going to work, but we'll give her a go.

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Time: 16:55 CDT, 13:21:55 GMT
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SCHWEICKART Okay, look, as far as I'm concerned, if there's any question whether it's going to work that's low priority. Forget it.

CC We're just about to go LOS and I'll have you at 28, 28.

PAO This is Skylab Control, Greenwich mean time 22 hours 7 minutes. On the previous pass over the Hawaii tracking station Commander Pete Conrad requested the ground reconsider instructions to deploy the TV camera tomorrow during the EVA. He questioned the - he didn't like the procedures and he said he felt more comfortable using the 16 millimeter DAC camera. Next acquisition will be over the Vanguard tracking station in 20 minutes. This is Skylab Control at 22 hours and seven minutes.

END OF TAPE

SL-II MC-609/1

Time: 17:26 CDT, 13:22:26 GMT
6/6/73

PAO This is Skylab Control, Greenwich mean time 22 hours and 26 minutes. We have ac - we will have acquisition at the Vanguard tracking station momentarily. The crew should be well into their evening pre-preparations for tomorrow morning's scheduled EVA. Science Pilot Joseph Kerwin should have concluded an M092 M171 run, that's the metabolic analyzer experiment, M171 and the lower body negative pressure device M092. Will leave the line up for conversation between CAP COMM Bob Crippen and the Skylab crew over Vanguard.

CC Skylab, Houston, we're AOS over the Vanguard for the next 8 minutes and we will be doing a recorder dump.

CDR Roger, Bob.

CC And, Joe if you're listening some good news for today, the medics have decided to insure that you get a good nights sleep - that you can scrub M133 for tonight.

SC He says, "Yeah. Thank you."

CC He's trading that for some water gun readings we're going to ask you for later.

SPT Okay.

CC CDR, this is Houston.

CDR Go ahead.

CC Okay, we want to - we were discussing here want to make clear the position on this TV thing so that you don't have anything hanging over your head. We'd like to make sure you understand that that's extremely low priority on that EVA, that the whole job is to get that SAS wing up and if for whatever reason you decide not to take that thing out there to look at the parasol or anything else, that's just great, forget it. On the other hand, if it's back there in the aft compartment and you get done in time and you feel like trying it, that'd be swinging. If on the other hand, tonight in setting up lock compartment, air lock stowage, you decide it's too - too big a mess to stow forget it tonight and it's gone. We got - we want no pressure on you on it.

CDR Well, Rusty, my feeling that the it's gone now because I don't want to mess with it for the following reasons. We've decided not to handle the TV during the EVA because it was such a mess to handle. Now you're asking us to handle the thing when we've never tried it before. And I feel e'll lose the camera, screw it up or do something wrong.

CC Okay, it's gone.

CDR Atta boy, now you're talking.
(garble) I don't even want to mess with it. We're configuring the ZVA right now and we've only got one camera, we've never

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Time: 17:26 CDT, 13:22:26 GMT
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messed with it. That cable's a bear and I just think we're a lot better off not messing with it at all. I'll give you some TV at the command module window of the orange and hopefully fully zoomed in you can get a good color comparison.

CC Okay, fine. Quit talking about it, it's gone.

CDR Now I can go back to work.

CC We just want to let you know, we probably will not send up a revised pad. As you're going through them just delete all references to it unless you want us to send up another pad with all that stuff deleted to make it clean. Your choice.

SPT We'll leave it go like she is.

PAO This is Skylab, Houston, we just sent you up another teleprinter pad which is a slight mod to your EVA Checklist.

CDR Very good.

END OF TAPE

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CC Skylab, Houston. We're 1 minute til
LOS. We'll see you again at Hawaii at 23:35, 23:35.
SPT Okay, Crip. I got a question on this
last change to the EVA checklist that was sent up. For ex-
ample, we're just added opening the ILCA gears and turning
the ATM coolant pumps off. Then I remember - How we gonna take
care of closing those breakers and turning those pumps back
on?

CC Okay, we've got the coolant pump covered
to turn it back on, as you'll see and I guess we're gonna
give you a GO on that ILCA heater, depending on what our
power status is.

SPT Oh, yeah, I should have seen that. I
didn't read far enough, okay. All righty.

PAO This is Skylab Control. Greenwich mean
time 22 hours and 37 minutes. We have loss of signal at the
Vanguard tracking station. Capcom Bob Crippen advised Science
Pilot Joseph Kerwin that he would not have to don the sleep
monitoring cap, the M133 experiment this evening. Commander
Conrad asked the ground and received permission to not use
the TV camera tomorrow to take pictures of the deployed
parasol. The ground is concerned about the color of the
parasol, and Commander Conrad said he could use the TV
through the Command Module window to give them pictures of
the parasol. Next acquisition will be Hawaii in 57 minutes
from now. This is Skylab Control at 22 hours 38 minutes.

END OF TAPE

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PAO This is Skylab Control, Greenwich mean time 23 hours 33 minutes. We anticipate acquisition of signal over the Hawaii tracking station with Capcom astronaut Hank Hartsfield.

CC Skylab, Houston, through Hawaii 6-1/2 minutes.

CDR Hello there Hank. How are you tonight?

CC Oh, pretty good. How did it go today?

CDR Well, we've got it all done so far, we're gonna make the ATM pass. And Joe and I are doing as much EV prep for tomorrow as we can do tonight, right now.

CC Okay, I guess sometime before the evening's over, we'd like to tag up on just how far you got, and where you think you're gonna pick up tomorrow morning.

CDR Oh, I'd say right now, Hank, we've got the suits to the donning stage, the PCU's are out, because that was gear that was basically moved around with some other stuff and it was easy to do today while we were doing some other things. We're just picking up the cue cards now, and I think that we'll be in good position at about 1 - 02:00 or so to tell you where we are on the cue cards.

CC Okay, good show.

CC Skylab, Houston. For info, we're commanding the GYROS into the sleep configuration.

CDR What happened to that Z GYRO today? compensation go off again?

CC It was a momentary hard-over.

CDR That's interesting. We just give the cluster (garble) a couple of good healthy (garble) down in the TACs.

CC Roger.

CC Our data showed we got three firings.

CDR Yeah, that's what they got down here. They got it around M092 (garble) Any explanation for the momentary hard-over?

CC I guess we can't answer that, Pete. Everybody down here is baffled by it. It's the second time it's happened. And the GYRO seems perfectly normal now and we got it back on the line.

CDR Same GYRO.

PLT Hey, Hank, I got a question for you about general message 1326, which is the EVA procedures, tail end.

CC Okay.

PLT We have two Charlie 2s and two Charlie 3s. Crip mentioned this before, but I didn't have the message to look at then. The second Charlie 2 and the second Charlie 3 replace the first ones respectively.

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Is that right?

MCC Hey, we're going over that right now.
We'll get back with you.

PLT Oh, you mean I shouldn't do too much
cutting and pasting yet, huh?

MCC Okay, the last Charlie 2 and the
last Charlie 3, the last two messages you got are
valid. You may press on with cutting and pasting.

PLT Okay, thank you, sir.

CC And Skylab, Houston. Info on your
evening questions are in the teleprinter.

CDR Roger.

CC Skylab, Houston. We're about 1 minute
til LOS. We'll be coming up on Vanguard at 06.

PAO This is Skylab Control at Greenwich
mean time 23 hours 42 minutes. We have loss of signal over
the Hawaii tracking station. And on this pass Capcom Hank
Hartsfield and astronaut Rusty Schweickart discussed with
the crew the last procedure that they're going through
tonight prior to sleep period, preparing for the EVA to-
morrow morning. Pilot Paul Weitz was questioning, when he
used the phrase LC, LC2, he's referring to changes which
went up on the teleprinter concerning EVA procedures for
tomorrow. On it's 336th revolution of the Earth, Skylab
will be - have acquisition over the Vanguard tracking
station in approximately 22 minutes. Greenwich mean time
23 hours 43 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-612/1

Time: 18:45 CDT, 13:23:45 GMT
6/6/73

PAO This is Skylab Control, Greenwich mean
time 23 hours 45 minutes. We anticipate a Change-of-shift
briefing in the building 1 news room in 15 minutes from now
7:00 p.m. central daylight time, with Milt Windler, Flight
Director of the maroon shift. Here at Mission Control Center,
Neil Hutchinson and his silver team has taken over from the
maroon team. At Greenwich mean time, 23 hours 45 minutes,
this is Skylab Control.

END OF TAPE

SL-1 MC-613/1

Time: 19:32 CDT, 14:00:32 GMT

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PAO This is Skylab Control 00:32 minutes Greenwich mean time. During the Change-of-shift briefing with Flight Director Milt Windler, we had two successive passes over Vanguard and Ascension. We will play that tape now. Discussions were passed up to the crew concerning displays on the ground now show that CBRM 17 is showing proper amps. And indications are this CBRM is now safely back on line. We'll bring up those two passes now. Our next live pass will be in 31 minutes over Guam.

CC Skylab, Houston through Vanguard 10 minutes.
PLT Roger, are you ready for the evening status report?

CC Stand by and let's see if they are ready to copy. We had it scheduled for the next Vanguard, but let's see if they're ready.

PLT Okay, if you're not, no sweat, we'll give it to you then. If you're ready we got her.

CC Okay, we're ready to copy now.
PLT Stand by.
CC While we're standing by you might be interested to know that Ava's got winds up to 130 knots now.
PLT Phew.
PLT Okay it's (garble) pick up here, Henry. All I (garble) on the food. The SPT ate everything. He's only had one extra can of butter cookies. CDR ate everything. The PLT ate everything except one item - 75, bread, and a gallon of water and minus one, optional salt 1.5. Okay the only pictures we took today were some Hasselblad pictures and that's (garble) C. No deviations from the flight plan that you don't know about and no stowage changes.

PLT Got everything you wanted?
CC Stand by.
CC Okay, I guess that about does it for the status report. The only other open item now is the questions which we sent up to you awhile ago.
CC And PLT, I've got some gimbal alignments for you for the star tracker.
PLT Okay, go ahead.
CC Okay, OUTER is a plus 1442, INNER plus 0032.
PLT Okay, I understand the INNER is plus 0032, the OUTER is plus 1442.
CC Affirmative.
PLT When does that start, Henry?
PLT Is this the same as on the original pad day 38 it starts?
CC Apparently the original pad and I guess you can bring it up at sunrise. We're in a dump now.

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PLT Yeah.
CDR Have we still got you, Hank?
CC That's affirmative. A couple of more minutes.
CDR I'll give you D156 stuff you asked for.
CDR Ready to copy?
CC Go ahead.
SC Hello.
CDR Okay, Alfa, CDR 200, SPT 130, PLT 340.
Bravo: CDR 3886, SPT 7182, PLT 3261. Charlie: CDR 6106,
6103, 6107; SPT 6656 6654 6647; PLT 6829 6831 6828. Delta:
CDR 2/15/15 - -

END OF TAPE

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CDR 10, 96831, 6828 Delta CDR 2/15/1500
SPT 2/15/2250 PLT 2/16/2600 1/04/0200 Echo CDR, none; SPT,
none; PLT, none. That's it.
CC Roger, thank you. We're about 35
seconds from LOS. We'll be coming up at Ascension at 21 for
the recorder dump.

CDR Bye.
PAO Skylab, Houston to Ascension 7-1/2
minutes. Skylab, Houston to Ascension 7 minutes.

CDR Are you ready for the questions?
CC Go ahead.
CDR No. 2 is yes, no. 3 we'll have to give
you later. No. 4 is 22 volt read - 22 volt reading on reg 17
and the answer I was reading (garble) what kind of line a
week or so ago. You're still confusing him with big
words. The answer to five is yes.

CC We won a bet on no. 2.
CDR Who won?
CC The friendly CAPCOM and flight director
won, and FAO lost.

CC PLT, Houston?
PLT What do you want?
CC Roger. The PLT, before you leave the
ATM tonight we'd like for him to get the reg volts and the
reg current on CBRM 1. The reason we want this is to make
sure that your own volt meters are giving you the right
readings.

PLT All right. Stand by and we'll see now.
PLT Okay, Henry. CBRM 17 regulator is
reading 30 volts now. Hello, Houston, you there?

CC Roger, we're just talking about that,
that thing seems to work all right. After ten or fifteen
minutes of night time, it seems to come up to speed and do
its job and in the day time it just flat puts out a couple -
about half of what its supposed to (garble).

PLT Okay, I'll try to remember to work
(garble) day passes to see how it works then. Yeah, it's
right up (garble) all of them, all but 15 are (garble) now.

CC Roger. Skylab, we're about 1 minute
from LOS, Guam will be coming up at 05.

CDR Hey, Henry, I want you to think about
us not inhibiting TACS tonight, I (garble) the gyro what
would happen had it happened with the TACS off. Okay?
Think about it.

CC Okay, we have a story for that. I
think we have it all planned out, we'll tell you next time.
CDR Make it a good one.

SL-II MC-614/2

Time: 19:37 CDT, 14:00:37 GMT

6/6/73

PAO This is Skylab Control 004. minutes.
We've had loss of signal over Ascension. The spacecraft
crosses over the Persian Gulf on its 337th revolution, we'll
have acquisition over Gu- Guam Island tracking station in
23 minutes. This is Skylab Control at 00:41 minutes.

END OF TAPE

SL-11 MC-615/1

Time: 20:04 CDT 14:01:04 GMT

6/5/73

PAO Skylab Control 1 hour 4 minutes
Greenwich mean time. We expect acquisition of Skylab
over the Guam Island tracking station.

CC Skylab, Houston through Guam 6 minutes.

CDR Roger.

CDR Hey, Hank, I got a little confusion
here. Where did you want me to get the S082A film from?

CC Stand by.

CDR And then what do you want us to do?
Load it in our cans?

CC While we're smoking that over. Pete,
I'll give you an answer on that TACS thing. The (garble)
we had two previous hard-overs on the Z1. One was on day
154 and one was day 157, which is today, I guess, and we -
the reason we want TACS inhibited is that if the thing does
its hard-over, then ATMDC puts it in command and it'll
fire the TACS right off the bat and start moving the
vehicle out, then the (garble) bringing up Z-3, and when
it gets it on the line, it'll decide that one is the bumper
and then it'll fire or do whatever it is to get it back. If
we have it inhibited, the vehicle stays where it is, or if
the CMGs start moving - but we think that - we're pretty
sure that it will recognize that the failure and everything
will be under control before we get into CMG SAT and we
won't be wasting any TACS.

CDR Okay, I'll buy it.

SPT Hey, Hank, this is the SPT. How is
RATE GYRO 3 in C? Is it good? Because if it is, why don't
we go 2-3 and 3-1?

CC Stand by a minute.

SPT Yeah, but if we went 3-1, and we got
a discomparate, it'd go 3.

CC Okay, and in case you started there
Joe, they tell me that it will pick the lowest number GYRO,
so it would go to 1.

SPT No, I don't think that's true. But
they're smarter than I am. Then of course if we went 2 and 3
we could stay away from 1 completely.

CDR Hey, Hank. Where are we right now?

CC Okay, you're over Guam.

CDR Okay.

CC Our plan is to go 2-3, but, we're, I
guess trying to get some data on 3.

SPT Okay.

CC That's the reason we want to get the
star-tracker up tonight, so we can calibrate 3, and then
tomorrow, I guess, we're planning to go 2-3.

SL-II MC-615/2

Time: 20:04 CDT 14:01:04 GMT
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SCHWEIGART CDR, Houston.
CDR Go ahead.
MCC Yeah, Pete, message 1316 Alfa calls out load number 2 out of film vault 141, M141.
CDR Okay, very good. Paul put all our checklist changes in, and I didn't want to have to go back through all of the messages.
MCC Okay.
CDR Well, we've passed page 1 of the EVA prep card except for doing the wetting of the visors. And we're configuring LSUs and that sort of stuff now.
MCC Okay.
CC Skylab, Houston. For your info, we got a general message 1414 on board. It's a systems reconfiguration that has to be accomplished prior to the EVA. I suggest if you get time you might hit it tonight, and save a little time tomorrow.
CDR Okay, we sure hope this is the last reconfiguration we get before tomorrow morning.
CC Okay, it's just a short one. It's doing something with the REG adjust pots and on the recharge station.
PLT That's what Pete said.
CDR You got 500 guys down there keeping three of us busy.
CC Skylab, Houston. We're about 1 minute from LOS. Since we've already got the evening status report out of the way, we got some news, if you want to hear it: at Vanguard, which is coming up at 43, and also we're showing that TACS is still ENABLED.
PLT Okay, we were waiting for the discussion before we inhibited it. See if the CDR liked that or not.
CC Roger. Copy.
PLT How is that?
CC That's the only way.
PAO This is Skylab Control. Greenwich mean time 1 hour 12 minutes. As the spacecraft passed over the Guam tracking station, Commander Conrad requested information from the ground as to where he would get the film for transfer tomorrow into the S082 experiment in the Apollo telescope mount. This is one of the activities scheduled during tomorrow's extravehicular activity outside the building - outside the vehicle, excuse me. Next pass will be over Vanguard 30 minutes from now. Skylab Control, Greenwich mean time 1 hour 12 minutes.

END OF TAPE

SL-II MC-616/1

Time: 20:41 CDT, 14:01:41 GMT
6/6/73

PAO This is Skylab Control, Greenwich mean time 1 hour 41 minutes. As the Skylab space station completes it's 337th revolution as it nears the Vanguard tracking station. We expect CapCom Hank Hartsfield to read up the evening news to the crew as the Skylab space station will start its 338th revolution.

CC Skylab, Houston through Vanguard for 11 minutes.

PLT HI there.

CC And so you don't get confused we goofed up and sent you page 1 of the flight plan twice.

PLT Say again what you did?

CC Okay, we sent page 1 of the flight plan twice.

CC (Garble) Belay that. We didn't send it twice we just put it in the wrong order.

PLT You're forgiven.

PLT Okay, Houston, if you want a status report on where we are, we're about to open the hatch. We figured to have the EVA wrapped up in about an hour and a half.

CC A few people got up on that one.

PLT (Laughter)

MCC I'm glad I stayed awake.

PLT No, seriously, we are at the place on page 3 on the cue card where it says OBM's and LCG knotting, so we're going to pretty much wind it up there. We're going to smoke through the rest of it and see if there's a little details we could catch up on. And go through the EVA plan one more time and eat our ice cream and strawberries.

MCC Sounds like preflight.

PLT Hey, Rusty, I can't find that (garble). I remember seeing it that has the S082 dope on it. Is there anything else of interest on that one?

MCC Stand by.

SCHWEICKART Yes, PJ, it does have some other things on it. Stand by just 1.

PLI Okay.

CDR You know me, Rusty. I like to get things done early and not work late.

CDR It's like the night before Christmas up here. The suits are hung by the fireplace with their LSU's in place just waiting to go.

MCC Okay, Skylab. I'll tell you what. It's not too long a message, but it does have some other things on it that deal with the prep and what we think we'll do here is retransmit it to you here over Ascension which is coming up in about 15 minutes.

SL-11 MC-616/2

Time: 20:41 CDT, 14:01:41 GMT
6/6/73

CDR What's the message numbers, Rusty?
SCHWEICKART It's 1316 Alfa and aside from what we
already talked up, Pete, most of it deals with Post and I
think the only thing in (garble) is getting the right film
magazine out of 141 there.

CDR And I got it (garble) and it's ready to go.

END OF TAPE

SL-II KC-617/1

Time: 20:47 CDT, 14:01:47 GMT
6/6/73

CC Skylab, Houston, we need a few things cleaned up on the ATM panel.

CDR Shoot.

CC Okay, we need to get the H-alfa camera OFF, and close the doors on H alfa 1 and 2, and the S056 door CLOSED, and MPC INHIBIT.

CDR Okay, I was seeing how many of those you'd pick up. You did pretty good.

CC And - -

CDR I think we've got a bat charge light.

CC The star trackers kicked off again and we're getting some angles for you now. We need to reacquire.

CDR How come I have a bat charge light, Houston?

CC Okay, star tracker angles are OUTER 1500, INNER is 0035. A- the bat charge light on CBRM 13 is no sweat; we just had the heaters on during the dark period there.

CDR Hey, how come the heaters on the night side made the bat charge light come on then?

CC I'll get an answer.

CDR (garble)

CC Okay, what happened there was the heaters were on during the day light so the bat didn't get completely charged.

CDR Okay. How much of a sweat is it, for power tomorrow on EVA?

CDR Or to put it another way, I'd like a briefing. I don't want to be hanging half way out the hatch and have PJ start talking about battery chargers and PCG and this that and the other thing without understanding whats going on. Okay?

CC Okay. The EVA power down we sent you up there - the things we're going to command off, total 1106 watts and we calculate for the EVA, you'll need 1012 watts and that includes the VTR which we're scrubbing, so we think we've got a real good margin.

CDR Okay. I won't scrub the VTR, you know. You'd be surprised how much you can see from the inside. And I think we'll put the camera up here and PJ can really give you a good shot of Joe standing out there because that's the wide open from this STS window.

CC Okay, we - that's a good idea, we got the - the VTR schedule in that 1012 watts and we're about LOS now, Pete. Vanguard will be coming up in - correction Ascension coming up in 56 and that will be your med conference.

CDR Okay, see you later.

END OF TAPE

SL-II MC-618/1

Time: 20:55 CDT, 14:01:55 GMT
6/6/73

PAO This is Skylab Control, Greenwich mean time one hour 55 minutes. On the previous pass across Vanguard tracking station Science Pilot Kerwin jokingly told the ground we're about ready to open the hatch and we should have the EVA over in about an hour and a half. His comments were addressed to the fact that the crew is that well ahead on the EVA preparations for tomorrow morning. When that remark came down from Skylab space station, several of the flight controllers here in the Mission Control Center stood up and looked around quite surprised. Commander Conrad mentioned that they were ready with their equipment for tomorrow morning. He said the LSU's are by the fireplace ready to go. The LSU is the Life Support Umbilical which is a 60-foot long umbilical cord that the crew - through which the crew will receive their oxygen and water supply for their liquid cooled garment that they wear underneath their Apollo-type pressure suits for the EVA. We now are entering the Ascension tracking station, during which time Skylab Flight Surgeon, Dr. Charles Ross will have the evening medical conference with the crew. At Greenwich mean time one hour 56 minutes, this is Skylab Control.

CC Skylab, Houston. We've got about 15 minutes left.

SPT Fifteen minutes?

CC Roger, we're picking up Canary and Madrid here contiguous.

SPT Woo woo. Okay, let's hear the late show.

CC Hey, I could give you a little run down on the power here you asked about just before LOS a while ago. The actions you're taking there are essentially cutting all the fans off and get all the lights in OWS, getting the wardroom water heaters off and the ATM C&D coolant loop off and one of the (garble) is POWER DOWN, and that totals out about 415 watts. Now, just prior to the EVA what we're going to do is command OFF the ATM experiment power and get regs three and 15 off which are not outputting anyhow, get your bat heater's off, power down experiment Pointing and the real biggy there is switch the ATM - thermal control system over to survival which saves us 466 watts. And all this comes up to 1100. And then the things that are required for your EVA - all your lights, SUS pumps, tape recorder, and converter, the primary coolant loop, and LSU power comes out to about 887 and then VTR is another 125 for a total of 1,012.

SPT Okay, we noticed that little note not to use the food heaters for lunch tomorrow. I'll have you know that we've only been using the food heaters for one food each day and that's the evening frozen the meal.

CC Roger, copy.

SL-II MC-618/2

Time: 20:55 CDT, 14:01:55 GMT
6/6/73

SPT Now, Henry, let me make sure that the way we're figuring on going tomorrow. And I don't know what happened to that message I told Rusty I'm missing. We're going to basically work from three books/pieces of paper. One of them being the EVA cue cards, another being the EVA checklist, and the third being that EVA procedure that was sent up here today and yesterday - part of it was in that stuff yesterday. So I assume that everything you're talking about is included in either checklist changes, cue card changes, or in that procedure, is that right?

CC That's affirmative.

SPT And I remember seeing that message, Rusty and I don't know how it was thrown out of (garble).

CDR Hey, by the way, what are you planner types planning for the day after tomorrow so that we could get this spacecraft put back in the right shape. Don't forget we got tools and you know all that other Mickey Mouse sails are hanging around and man, there's junk all over everywhere, so it's not just the regular EVA post-operation. Copy that?

CC Roger, we've got people looking at that, Pete, and they're - we hope to have a plan.

CDR Okay, it is definitely going to take us - I think we ought to have a 12-man hour three hour each - no excuse me - nine manhour three hour each period in addition to the normal post EVA OPS to put this spacecraft back in shape because we've done torn it apart for the last two days.

CC Roger, we concur.

END OF TAPE

SI-II MC-619/1

Time: 21:04 CDT, 14:02:04 GMT
6/6/73

MCC

Henry?

MCC

Hey, CDR or troops up there. We'd like to say just a word about the lighting related to the power here. If you get out there, especially if Joe gets up around the discone antenna in the evening there when its dark, and decides he does not need the docking lights, PJ could pull the breakers. There are two breakers, they knock out the two different lights that apply to that area, we could save power and would appreciate it if you don't need those lights, Joe, to let PJ turn them off.

PLT

Are the breakers labeled what, docking

light?

MCC

Stand by, I'll get the specific label on the panel for you.

PLT

I got another question while you're doing that. Remember, you said something about a reconfiguration of the STS panel tonight. I see that tomorrow night, but I don't see anything to do tonight yet.

MCC

Okay, we got that one. The circuit breakers for the docking light are on panel (garble).

PLT

Hello, Houston, you still there?

MCC

Roger.

PLT

Maybe I'm confused, I have here a message for (garble) I got a message number for you. 1414, now is that to be performed tonight or tomorrow night?

MCC

Roger, that has to be done prior to the EVA. That's the one I was talking about earlier, that if you could do, it's a real short one, you might do it tonight.

PLT

Oh, okay. You can't ask me tomorrows Flight Plan, and I thought - I locked in right away on presleep plan tomorrow night. (Laughter)

MCC

Paul, the - we have two ways to turn off the docking lights - there's a switch on 207 which turns them all off, or on 202 we got the circuit breakers which turn off half the lights, each of them. And I'll tell you right now which one turns off which lights.

SPT

He's en route to the MDA, Rusty, he'll call you in a minute.

PLT

Okay, Rusty, I see the switch, the docking light switch above the caution warning. Where are the breakers, on what panel?

MCC

202.

PLT

Okay, which one?

MCC

Okay, it's next to the bottom row and it's locking lights 1 and 2.

PLT

Oh, yeah, okay. I'm doing that power down, whatever it is. The three configurations now, Hank.

SL-II MC-619/2

Time: 21:04 CDT, 14:02:04 GMT
6/6/73

CC	Roger. Copy.
PLT	Okay, that made the AM batteries
6 and 7 start discharging (garble)	
CC	Roger, we're going to take those two BATS
off the line tonight to keep them up.	
PLT	Okay.

END OF TAPE

SL-II MC-620/1

Time: 21:10 CDT 14:02:10 GMT

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CC Skylab, Houston. To fill you in a little more on the power thing, the reason that we're doing this REG adjust tonight is - the plan is that if we get into a bind and have to do the pitchup to 45 degrees for thermal reasons, that to handle the loads we're gonna bring the AM BATS on the line, and so we're all set up to do that and command it from the ground.

PLT Okay.

SCHWEICKART And Skylab, Houston here, we - and as I mentioned earlier had not thought about the view out the SFS window and if you can get a TV view out there, that would be appreciated. We can pick up the real-time over the states, which will be shortly after sunrise, and we'll give you a GO for use of a VTR if you want to try that also.

CDR I have thought of physically putting the camera there, Rusty, but there's nothing behind your head, and you can see the whole dipole antenna to the base, below the base, and the A-Frame, all through that window, and I'll think you'll have excellent TV of Joe.

MCC Yeah, I think that would be a - very educational here, and I think everyone would look forward to seeing it, if it's no sweat.

CDR Okay, I went back up to look at the sail again. There is no doubt about it that the orange is beginning to fade. I would say that it's a nice orangy-frost-gold now, if that is a good description. And I think I can get the TV up there to where I can show you about a 6 inch strip about 3 inches wide of it. In full zoom, you might think about what that would do for color resolution. And we can work that one later.

MCC Okay, fine. It just so happens I have in my very hand at the moment a couple of samples of the sail material here, which have been exposed to various thermal cycling, and let me ask you, with your description if you might take a gander at the stationary end of the LBNP for color comparison with what you just described to me.

CDR I don't know. It's still much more orange than that, Rusty. That's a flat gold and this has still got a lot of orange left in it, but it's - it looks faded. That's what it looks like.

MCC Okay, fine, well it's between two of them that we got here in our hands right now. So that does give us some hack on it, thanks.

CDR Okay, give us a little more advance warning if we're going to do a sail deployment, will you?

MCC I keep trying to get some, but I'm not

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having much luck.

CC Skylab, Houston. We're about 30 seconds from LOS. Be coming up on Guam at 40, and I do have some news if you've got time to listen to it there, if not we'll do it in the morning.

PAO This is Skylab Control. Greenwich mean time 2 hours and 15 minutes. The previous several passes had Commander Conrad, Science Pilot Kerwin, and Pilot Paul Weitz discussing preparations for tomorrow's EVA. Commander Conrad passed to the ground a suggestion that they use the TV camera tomorrow by placing it at one of the windows in the STS, the structural transition section, which is between the airlock module and the MDA, the multiple docking adaptor. There are four windows, 8 by 12 inches, oval windows spaced 90 degrees apart, on the outside of the STS. Commander Conrad said that by placing the camera in one of those windows, they might get a good picture of Science Pilot Joe Kerwin as he passes out the equipment for the EVA. At Greenwich mean time 2 hours and 17 minutes, this is Skylab Control, with next acquisition at - over the Guam Island tracking station in 23 minutes.

END OF TAPE

SL-II MC-621/1

Time: 21:38 CDT, 14:02:38 GMT

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PAO This is Skylab Control, Greenwich mean time two hours 38 minutes. We will have acquisition of the Skylab space station over the Guam Island tracking station momentarily. We'll hold the line up for conversations. Probably the last conversation with the crew tonight before they get the good-night call from Cap Com Hank Hartsfield.

CC Skylab, Houston through Guam for 10 minutes.

PLT Hi.

CC PLT?

PLT Yeah?

CC Yeah, hey, PJ let me tell you about one thing here that's come in late and just a warning for tomorrow. If you've got message 1326 around which is the second part of the EVA procedures that is the portion where you're changing out the S082-A film?

PLT Well, we just happen to be there, talking it over. Let me - these message numbers don't really do anything for us, Rusty. We don't file them by message number. We gotta have a subject. Yeah, I see how I missed that other card I missed the - well anyway I made what I thought was most of the changes and threw that other message away. I missed changing the stowage compartment number though.

CC Okay, well the one I'm talking about now, then, Paul is general message EVA additional.

PLT I'm looking at it Rusty, go ahead.

SCHWEICKART Okay. Down there where - after the magazine is all replaced and you're up at panel 130 doing the film checks there, the verifications?

PLT Yeah.

SCHWEICKART Okay, we found out late here, unfortunately, that there may be a relay race logic problem which means that when you - okay you go down about three lines there and you're step and it says main power switch ON?

PLT I'm looking, wait a minute.

SCHWEICKART Okay, it's right after it says ZV-3 and you reset the film counter and then it says XUV SPECT MAIN POWER switch ON and then it talks about the power doors.

PLT Yeah, okay I got it. (Garble) are you getting to handling these things? You know, I got a 16-foot message here and I'm trying to read from it. It's hard to find things sometimes. But I've found that place, go ahead.

SCHWEICKART Okay, the problem here is that the door is open - the outer door is open when you start this thing and if you just turn the main power ON then there - it's possible that the logic race will be such that you will not get a film decrement even though everything is okay. And the way to fix that up is just before main power switch ON, go ahead

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and put the power door switch OFF and wait for the doors to close. In other words, wait about 20 seconds and then go right ahead with the main power switch ON et cetera.

PLT You're saying then that the power door's power to the doors is independent of on the main power switch position?

SCHWEICKART Yeah, the main power position will affect both doors, both the outer door, the thermal shield door and the inner door. If you have the main power switch OFF the inner door will remain closed but the thermal shield door will still open and close when you hit the POWER DOOR switch.

PLT Okay, so just ahead of main power switch ON you want me to say power doors OFF.

SCHWEICKART Right and then wait 20 seconds and then press on with it just as written.

PLT Okay.

SCHWEICKART And I hope - I'd like to promise you that that's the last change on anything we got here. And let me try that just before we go to bed here.

PLT Okay.

CC Skylab, Houston. I've got a few news items here. Are you too busy to listen or rather wait?

PLT No, take them up.

CC Okay, I'll start off by saying on this day in history, 1944 we landed in Normandy. President Nixon's made several new appointments this week. Former Defense Secretary, Melvin Laird has been made presidential counselor for domestic affairs. Laird said that he will form close ties with the heads of all the federal departments and agencies with members of Congress and with the President. He will have cabinet status and will be a member of the National Security Counsel. General Alexander Hague will retire from the Army to become Nixon's assistant in charge of the White House staff. Hague, as you recall, was former assistant to Henry Kissinger and has been acting as the White House Chief of Staff about one month. Kansas City Police Chief, C.M. Kelley is expected to become permanent Director of the FBI. Kelley's been in his present job since 61 and is considered an innovator of new police methods and techniques. Kelley was an FBI agent for more than 20 years. Ronald Zeigler, White House - -

END OF TAPE

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CC Kelly has been in his present job since '61 and is considered an innovator of new police methods and techniques. Kelly was an FBI agent for more than 20 years. Ronald Zeigler, White House Press Secretary will become a presidential assistant for communications in addition to keeping his present duties.

MCC Okay, President Nixon will be near the Cape Kennedy area Friday when he delivers a commencement address at Florida Technological University. The new school was founded in 1968 and will be graduating about 700 students. Vice President Spiro Agnew spoke to U.S. Governors at the National Governor's Conference Wednesday at Stateline, Nevada. Agnew told the audience that he is "available for consultation, available for counseling."

MCC In Paris, Henry Kissinger resumed secret talks with Lee Duc Tho, solithuro member from Hanoi. The two representatives are seeking ways to halt continued violations of the cease-fire in Viet Nam. Congress was told by Deputy Defense Secretary, William Clements that the Pentagon will not order any more F-111 fighter bombers when the current production run ends late next year. The Air Force will have 543 of the aircraft by that time.

MCC The Senate Watergate hearings continue to be televised during the daytime hours. Wednesday's hearings featured Hugh Sloan, Jr., former Republican Campaign Treasurer. Sloan discussed the intricate business of receiving and handling huge sums of money during the election campaign. He also expressed his concern that the committee to re-elect the President might be involved in the Watergate affair, but said he was ignored by other officials. A bill has passed the House of Representatives to raise the minimum wage from a \$1.60 an hour to \$2.20 an hour next year. They will also extend coverage to six million more American workers, including household domestic workers. The bill now goes to the Senate.

CC I guess my wife's going to get a raise.

CC Wet weather in the mid-west caused by this Spring's heavy flooding has delayed Spring crop planting. Farmers and federal agricultural officials can't agree however, whether delay will mean higher prices for consumers. Bridgette Bardot announced that she will retire from film making. "I have had enough" she was quoted as saying. Some baseball scores from yesterday, National League - Philadelphia 4, Houston nothing. Dodgers 10, Chicago 1, Montreal 7, Atlanta 6, San Francisco 3, Pittsburg 2, Cincinnati 6, New York 5, Saint Louis 5 and San Diego 3. In the American League the scores were 7 to 4, 9 to 2, 8 to 6, 5 to 4, and 5 to 2.

PLT (Garble) report.

SCHWEICKART Good night Henry.

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Time: 21:46 CDT, 14:02:46 GMT

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CC Goodnight Rusty.
SCHWEICKART Goodnight, Henry.
PLT Good day you all.
CDR Thank you, we appreciated that.
CC Skylab, Houston we're about 30 seconds
from LOS. We'll see you in the morning.
CDR Okay, Hank you might make sure you give
us a holler (garble) we're up by 11:00. What are the State's
passes (garble)? Have you got them?
CC You say you want a wake-up call in the
morning, Pete?
CDR Well, if you got one around" give us a holler.
Real good. We appreciate the good (garble) even though we have
been needing you. We'll give (garble)
CC And we just need to - one last message here
we need to INHIBIT the MOMENTUM DUMP on the next rev. We messed
up the (garble)

PAO This is Skylab Control, Greenwich mean
time two hours 51 minutes. The crew has closed out their
14th day in space as the Skylab space station passed over the
Guam tracking island - tracking station on rev 338. The crew
closed out the night by getting the daily news report from
Astronaut Rusty Schweickart and Hank Hartsfield. The daily
medical bulletin from Dr. Charles Ross, Skylab Flight Surgeon
is as follows: "The Skylab crew is in good physical condition
for tomorrow's EVA. The Science Pilot mentioned his complete
lack of symptoms while conducting vigorous head movements during
the M131 protocol and the fact that none of the crew has ever
experienced any motion sickness. The crew's day tomorrow
begins at 6.00 a.m. Houston time. The EVA preparations will
run for about 3-1/2 to 4 hours. EVA hatch opening is scheduled
for 10:37 a.m. central daylight time. A four-hour EVA is
planned to accomplish five - four different activities: de-
ployment of the orbital workshop solar array panel, pin-
ning back the S054 door in the Apollo telescope mount and
changing out the S082 film magazine. The crew will be wearing
Apollo-type suits during the extravehicular activity. The
crew will be attached to the vehicle by means of a 70-foot
long tether in which lines are provided to carry water, electri-
cal power and oxygen. During the EVA, Dr. Kerwin, and Com-
mander Conrad will be hard-suited while inside the vehicle
in a pressurized portion of the vehicle, Pilot Paul Weitz
will be soft-suited. He will not be wearing helmet or gloves
during this exercise. He'll be in the pressurized portion
of what is referred to as the structural transition section,
a portion between the multiple docking adapter and the air-
lock module. Pilot Weitz will monitor systems inside the STS,

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and will also read out procedures to the other two crew members as they perform the EVA. It's a possibility that the TV camera will be put up at one of the windows of the STS. There are four 8 by 12 inch oval windows spaced 90 degrees apart on the outside of the structural transition section, and it's possible to get - possible they may get a picture of Science Pilot Kerwin exiting the spacecraft. For early space-watchers in the Houston area, tomorrow morning at 5:39 a.m., Skylab space station will pass on a westerly, west to north path over Houston. It will be visible for four minutes and 14 seconds at an elevation of 15 degrees. At Greenwich mean time two hours and 55 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-623/1
Time: 22:05 CDT 14:03:05 GMT
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PAO This is Skylab Control, Greenwich
mean time 3 hours 5 minutes as the spacecraft is on it's
338th revolution of the Earth going over the South Pacific.
The crew has been bid good night for the evening by CAPCOM
Hank Hartsfield and Astronaut Rusty Schweickart. The crew will
arise at 6 a.m. Houston time, Central Daylight time to
begin a big day of extravehicular activities. At 3 hours
6 minutes Greenwich mean time this concludes the reports
from the mission control center. The next report will be
Thursday morning at 6 a.m. Central Daylight time. This is
Skylab Control, Greenwich mean time 3 hours, 6 minutes.

END OF TAPE

SL-II MC-624/1

Time: 06:07 CDT, 14:11:01 GMT

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PAO This is Skylab Control at 11 hours 1 minute Greenwich mean time. We're standing by for acquisition at - of Skylab at the Honeysuckle Creek station in Australia. Expect to wake up the crew at that time, if they're not already awake. Vehicle status has not changed over night. CBRMs 3 and 15 are still offline and number 17 still has a degraded output 4 to 4-1/2 amps below what's expected. There was no TACS gas usage over night. We'll stand by for the wakeup call.

CC Good morning, Skylab. This is Houston. We got you at Honeysuckle for 5 minutes.

SC Go ahead, Houston.

CC Hi there.

CC Skylab, Houston. We're starting our morning chores on commanding. We're going back to solar inertia mode and closing fine sensor doors.

SC How did the inertia go last night? (Garble).

CC Sorry, Joe. Didn't copy the question.

SC I'll catch you later, I'm at a bad VOX.

CC Okay, we're about 1 minute from LOS here.

We're going to see you at Hawaii at 11:23.

PAO This is Skylab Control; 11 hours and 9 minutes Greenwich mean time. We've had loss of signal at Honeysuckle. The Hawaii station will acquire in about 13-1/2 minutes. Entire day today will be devoted to the extravehicular activity and preparations for that activity and cleanup after the activity. EVA designed to free the solar array wing in an attempt to improve the electrical power situation on Skylab. Two Apollo telescope mount activities may be performed later this evening by Joe Kerwin, the science pilot, and Paul Weitz, the pilot. However, other than that and a short break for housekeeping tasks, the entire day will be devoted to the extravehicular activity. At 11 hours 10 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC625/1

Time: 06:22 CDT, 04:11:22 GMT

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PAO This is Skylab Control at 11 hours 22 minutes Greenwich mean time. Skylab about to be acquired at the Hawaii Station. Now on its 343rd revolution of the Earth. We'll stand by for acquisition at Hawaii.

CC Hi there, Skylab; Houston. We got you at Hawaii for 7 minutes.

SC Okay.

SC I say, Houston, how did the momentum go last night? We did not inhibit. We found a star instead that looked like we had a good Nz; so I'm interested in how things came out.

CC Joe, that work you did on the startracker fixed us up real fine, and we had no problems with momentum throughout the evening.

SC Okay.

SC Say, Dick, there was a general message sent up during the night or morning sometime, and one of them was on the MOL SIEVE.

CC Roger.

SC The answer is yes.

CC Okay, thank you much.

SC And you might pass on to the ECS guys that I inadvertently turned that thing off yesterday, and that's what brought to mind the whole business about checking out the primary timer. We need all kinds of word on what's supposed to happen when you initially activate a timer. Well, I got to playing with the secondary one yesterday, in the course of putting it back on, and the secondary timer on MOL SIEVE A worked like we always thought it would work. That is, regardless of BED position, as soon as you turn on that timer, it immediately vents A to adsorb and B to desorb.

CC Roger; copy.

SC And we heard they weren't supposed to work like that, but that one does. Even if it's already there, it'll send a squirt of nitrogen through there and just dump it right away. But it works like we thought it didn't anymore.

CC Hey, Paul, are you in secondary now?

SC That's affirm.

CC Okay.

CC Well, PLT, that's all kind of interesting. The EGIL says that it can happen the way you described. It will not - He thinks though it will not necessarily happen that way everytime. So possibly it's been just coincidence so far. At any rate, we are going to schedule a - a good timer checkout when we get to it.

SC Okay. Darn it, let's say that my data, or

SL-11 MC625/2

Time: 06:22 CDT, 14:11:22 GMT
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what I'm basing my remark on is the fact that I turned the MCL SIEVE - I inadvertently turned it off, turned it back on, and heard it dump the gas but not cycle. You know you can hear - that thing gives you a big sigh in your face when it cycles, and I didn't hear it do that. So I opened up the cover and looked, and A was in adsorb, B was in desorb. And I thought I said, "Well, I wonder if I'm double stroking that bed? So I'll hit it one time and see if it cycles." So I turned the timer off, back on, and gave it a shot of air and dumped it, and nothing happened to the BED indicators. They stayed where they were. So I watched it, thinking about what EGIL is going to say, for a minute or two, and then I turned it off and back on, and the same thing happened. It gave it another shot of nitrogen, dumped it, and the BEDS stayed where they were.

CC

Roger; understand.

CC

Skylab, Houston. We're about 30 seconds from LOS. We're going to have a short break. See you at Goldstone at 11:31.

SC

Roger, Dick.

END OF TAPE

SL-11 MC626/1

Time: 06:31 CDT, 14:11:31 GMT

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CC Hello again, Skylab. This is Houston, and
we've got you for about the next 8 minutes.

SC Roger.

CC Skylab, Houston. We're going to have a
short break, and we'll see you at Bermuda.

SC Roger, Richard.

END OF TAPE

SL-II MC-027/1

Time: 06:42 CDT, 14:11:42 GMT
6/7/73

CC Hello again, Skylab. We're at Bermuda
for the next 6 minutes.

SC Okay, Houston.

CC Skylab, Houston. We're one minute to LOS.
We're going to see you at the Canary Islands at 11:53.

SC Roger, Dick.

PAO This is Skylab Control; 11 hours 51 minutes
Greenwich mean time. We've had loss of signal at Bermuda.
There was no air-ground conversation during this pass over
the United States, other than the usual amenities at AOS and
LOS. We'll pick up Skylab at the Canary Island Station in
about a minute and a half. We'll continue to stand by for
that pass.

END OF TAPE

Sl.-II MC-628/1
Time: 06:52 CDT, 14:11:52 GMT
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CC Skylab, Houston. We're AOS at Canary
for 10 minutes.

SC Roger, Dick. And we just passed over
an area that's almost like Meteorology for Naval Aviators textbook
pictures of developing cyclonic depressions. They got a tropical
depression out here about oh a couple of 100 miles behind us now?

CC Let me check with the weather man, Paul.

CC Skylab, Houston. There is a very large
low pressure center that you just passed over and it's about
a 43 degrees north. So it can hardly be a tropical depression,
but it is - it is a large low area. And that's probably
what you saw.

SC Yeah. It's loud and clear out there.

CC Skylab, Houston. We're about 1 minute
from LOS at Canaries. You guys are still on a long descending
pass down the African Continent. And we're going to see you
at Honeysuckle at 12:38.

SC Roger, Dick.

PAO This is Skylab Control at 12 hours 4 minutes
Greenwich mean time. Skylab has passed out of range of the
Canary Station now. At acquisition of the spacecraft at Canaries,
the Pilot Paul Weitz reported sighting what he thought was a
classic textbook developing cyclonic depression just shortly
before AOS. Checked with the weather man; showed that there
is a large low pressure center in that area 42 degrees north.
He described it, however, as a plain old storm, nothing too
fancy. We'll next acquire Skylab at the Honeysuckle Creek,
Australia, Station in 33 minutes. It's about 1 minute after
the crew is scheduled to begin preparations for the upcoming
Extravehicular Activity. Those preparations scheduled to
begin at 15 hours, 37 minutes Greenwich mean time, or 7:37
I beg your pardon, those are scheduled to begin at 12:40
Greenwich mean time, or 7:40 central daylight time. Hatch
opening is scheduled at 15 hours, 37 minutes Greenwich mean
time or 10:37 central daylight time. At 12 hours 6 minutes
this is Skylab Control.

END OF TAPE

SL-II MC629/1

Time: 07:37 CDT, 14:12:37 GMT

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PAO This is Skylab Control 12 hours 7 minutes Greenwich mean time. We're about 1/2 minute away from acquisition at Honeysuckle. EVA preparation is scheduled to start 12 hours 40 minutes. The maroon team has taken over in the Mission Operations Control Room. Flight Director is Milton Windler. CAP COM Astronaut Bob Crippen and the backup crew Commander Astronaut Russell Schweickart is at the CAP COM console also. We'll stand by for the Honeysuckle pass.

CC Good morning, Skylab. We've got you over Honeysuckle for about 8-1/2 minutes.

SC Roger, Houston. I'm ready to go ahead with ATM C&D panel configuration procedure, okay?

CC Stand by.

SC And another thing, I want you to verify on the checklist on page 1.2-3 in the right hand corner that was Xed out before - do you want me to close the OWS panel 2 valve or not?

CC Getting a reading on that, Paul. Hold on.

SC Okay.

CC Okay, that's an affirmative PJ.

SC On which one? On the N2 valve?

CC Yes sir, affirmative on the N2. What was the other one?

SC I'm ready to do a "preps" with ATM C&D panel configuration soon as you guys say it's okay.

CC Okay. You've got a GO on that, Paul.

SC You're easy to get along with this morning. Thank you.

SC Houston, CDR.

CC Go ahead.

SC Oh my God, is this Rusty?

CC That's affirmative.

SC You better give us - what's the earliest time we can start, Rusty?

CC Okay, you've got a sunset at right around 14:10. Hold on, I'll get the exact time.

SC Okay. I'm not sure that we'll make that but there's - we're - try to (garble) things and just kinda how fast it goes, otherwise we'll cool it to the right time.

CC Okay, we understand. And we're sort of semi-prepared for that. Let me give you an exact time here, Pete. Okay, the prior sunset time is about 14:03.

CC And Pete for positive ID purposes we'd like just a word of confirmation that you'll be playing the role of EV1 and that Dr. Kerwin will be playing the role of EV2.

SC Say again Rusty. I was top side.

SL-II MC629/2

Time: 07:37 CDT, 14:12:37 GMT
6/7/73

CC Roger. Since we don't have any red stripes around the arm we're just interested in being positive that the player for EV1 will be the commander and that the player for EV2 will be the SPT. Is that correct?

SC That's Charlie.

CC Charlie Pete Conrad.

SC Okay, let me tell you where we are. I'm doing the visors right now which is out of step and we're right at "strip off the clothes, put on the biomed LCG's CO."

CC Okay, we're right with you on our checklist here, thank you.

PAO This is Skylab Control. Pete Conrad reporting that he is at this time coating the helmet visors with anti-fog compound and he and Joe Kerwin are preparing to put on the biomedical sensors and the liquid cooled garment. To clarify conversation between Conrad and Rusty Schweickart, a few minutes ago there is a possibility the crew will be ready and will open the hatch one sunset early. There is a possibility that hatch opening time will be moved up to 14 hours 3 minutes Greenwich mean time or 9:03 central daylight time. The regular hatch opening time is scheduled for 15:30.

CC Go ahead.

SC Okay, I just want to double check, verify Houston on S054. I can go ahead and turn the main power switch OFF, the door will stay open, right?

CC That's affirmative.

SC Okay.

PAO Skylab Control. We're still holding with the Flight Plan time for hatch opening of 15:37 Gmt or 10:37 central daylight time, with the possibility of a hatch opening at 14:03 Gmt or 9:03 central daylight time.

CC Okay, Skylab we've got about 30 seconds left here at Honeysuckle; going to pick up Hawaii at 58.

SC Say again, Rusty.

CC Right, we've got about 10 seconds here and we're going to pick you up at Hawaii at 58.

SC See you then.

PAO This is Skylab Control at 12 hours 48 minutes Greenwich mean time. We've had loss of signal at Honeysuckle on the 344th revolution. Hawaii will acquire in about 10-1/2 minutes. Crew is in their EVA preparations at this time. Pete Conrad reporting he was coating the visors with the anti-fog compound. He and Joe Kerwin ready to don the biomedical sensors and the liquid cooled garments. Regular hatch open time for this EVA, 15 hours 37 minutes Gmt. That will be at sunset with the possibility that if the crew stays ahead of the time line on the EVA preparations and is

SL-11 MC629/3

Time: 07:37 CDT, 14:12:37 GMT
6/7/73

ready to go 1 revolution early or 1 sunset early we would permit them to open the hatch at 14 hours 3 minutes Greenwich mean time. Four hours scheduled for this EVA. At 12 hours 49 minutes this is Skylab Control.

END OF TAPE

SL-II MC-630/1

Time: 07:57 CDT, 14:12:57 GMT
6/7/73

PAO This is Skylab Control; 12 hours 57 minutes
Greenwich mean time. We're less than a minute away from
acquisition at Hawaii; we'll stand by for that pass.

CC Okay, Skylab. We got you again at Hawaii
for about 10 minutes.

SC Okay.

CC Okay, Paul. You might want to expect the
PRIMARY COOLANT FLOW CAUTION AND WARNING here. EGLL's going
to be powering down the primary system. I beg your pardon,
they'll be powering it up, which will give you a C&W there
on PRIMARY COOLANT FLOW.

SC Okay.

CC And also, PJ, for you up in your area,
we're going to be doing some commanding here. Specifically,
we're going to enable AUTO RESET, and we'd like you to stay
clear of the DAS. I don't think you have any operations there,
but we'd let you know that.

SC Okay.

CC PLT, give a call when you got a second.
Calling Rusty.

CC Yeah, okay. We got an indication here, PJ,
that the S054 main power and thermal power are still on. Is
that the case up there? We're looking at page 1.2-3, where
it calls for them both to be off.

SC Yeah, and I finished that (garble). Let me go
double check. All right?

CC Okay. Appreciate it.

SC No, both the switches are in the OFF position.

CC Okay, stand by just 1.

CC Okay, we may have a pulser problem there or
something, Paul. What we'd like you to do is go ahead and cycle
them both to ON, and then both back OFF again.

SC Okay. Task complete.

CC Okay, Paul. Stand by on that. It looks
like we may have a problem with the switch; we'll get back
with you.

SC Right. I'm going in the workshop.

CC Okay, PLT. We're going to go ahead and
command it from the ground here and see whether that gives
us positive indication at all.

SC Go ahead.

END OF TAPE

SL-II MC631/1

Time: 08:06 CDT, 14:13:06 GMT

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CC Okay, Skylab, we're about 40 seconds from LOS here at Hawaii. We'll be picking you up at Goldstone at 13:10. And Pete, the number you can stick in you bonnet for sunset there acceptable for exiting the airlock, would be 14:04. And if you want to get out a little earlier than that you can, but we'd expect you'd probably cool your heels waiting for sunrise, or you can get out up to about 10 minutes after that time. And we think you'll still have plenty of time to get everything done waiting for sunrise.

SC Okay, Rusty. I'm not sure we're going to make that one, but I think we're probably going to cool our heels an hour or so.

CC Okay, the schedule is up to you guys. We're ready to support any way you want.

SC Thank you.

CC Okay, Skylab, we've got you again over Goldstone this time for about 5-1/2 minutes.

SC Okay.

CC Okay, Skylab, we got about 20 seconds here to LOS, and we'll be picking you up at about 21 at Bermuda.

SC Roger.

PAO This is Skylab Control; 13 hours 17 minutes Greenwich mean time. LOS at Goldstone, about 3-1/2 minutes before acquisition at Bermuda. The S054 experiment, the x-ray spectographic telescope, is apparently stuck on. We verified with telemetry at Goldstone that that experiment is still operating. Switch is turned off in the spacecraft and we tried to command it off from the ground without success so far. Flight controllers will continue to work that problem. Flight director, Milt Windler, has asked for an assessment of the safety factors involved during the EVA. This is the experiment in which Joe Kerwin is scheduled to latch the door open on this telescope, with the previous problem with this door being stuck. We do want to get a assessment to determine whether there may be a safety factor involved with doing the S054 door latching. We do not have an answer on that. We'll let you know as soon as we do have one. Crew continuing EVA preparations and it will be crew option as to when they open the hatch. Rusty Schweickart advised them during the Goldstone pass that they could open the hatch as early as 14 hour 4 minutes GMT. He advised they might want to wait about 10 minutes after that time however so they would not have too long a time to wait in darkness prior to sunrise. Pete Conrad responded that he wasn't sure they would be ready to go at that time. He was

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advised that the schedule is strictly up to the crew. Should be acquiring at Bermuda in about 45 seconds. We'll standby for communications there.

END OF TAPE

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CC Skylab, we've got you now over Bernuda.
We'll have you for about the next 10 minutes here.

SC Roger, Rusty. I want to confirm that
I - Another circuit breaker, which is left open it turns
out, circuit breaker audio ZTU-A, - Is that - I want to
verify that it should be left open.

CC Okay. Stand by.

SC What I'm doing, I'm configuring the
(garble) in here, and I'm hooked into that add-on connector
in here. I'm on page 1.2-8.

CC Okay. Understand you're 1.2-8, and
we - that's affirmative on that circuit breaker. We do want
it left open. And since you're up in that area, PJ, let me
ask you whether there's a possibility you've still got the
POWER SYSTEM STATUS LIGHTS on, on 206.

SC I didn't know what you meant for a minute,
(garble) Now I just looked at that once last night and turned
them back off. They've been off since.

CC Okay. Understand you've got the POWER
SYSTEM STATUS LIGHT off. And be advised that CB will stay
open, Paul, until after you've got yourself plugged into the
suit and everything hooked up, and then it goes closed.

SC Okay. Does that affect everybody's PCU?
I guess it does, huh?

SC Let me tell you why. Because if I'm
going to bounce around up here taking pictures and handling
the TV, and the command module window's a fairly good place,
I've been thinking of just going on a headset. It's chilly
and 58 in the MDA, and as I remember, the only reason I'm on
the umbilical is for cooling. I think I can hack it in the
suit. Without cooling it's going to need the PCU in the
umbilical, and I was going to go around on the light weight.

CC Okay. Stand by, PJ; we'll take a look
at that and advise you on any configuration change you might
need.

SC Okay. Meanwhile, I'm going to prep.

CC Okay.

SC Hello, Houston. You still there?

CC Yes, sir. Go ahead.

SC Okay. We just lost a DELTA-P in our
condensate tank. I unhooked from the holding tank about 10 or
15 minutes ago. You got any quick good words?

CC Stand by.

CC Okay, we've got that in work. We'll get
back with you, PJ.

SC Okay. I just got the CAUTION AND WARNING,
and it's sitting on zero. It's 5 or 4-1/2, when I unplugged.

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CC Okay. We'll put that in the mill.
SC Okay, Houston. The status on that tank:
the WATER VALVE is in FILL, the PRESS VALVE is in CLOSED, and
the tank is empty.

CC Okay. Thanks. We got that.
CC Okay, PJ. We're going to be losing you
here in about 10 seconds at Bermuda. We'll pick you up again
at Canaries at 32. And we'll have some word for you on the
comm and also the condensate tank.

END OF TAPE

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CC Okay, Skylab, we've got you here at
Canaries for about the next - well, we got a long one here
at Canaries and Ascension for about 15 minutes.

PAO This is Skylab Control; 13 hours
34 minutes Greenwich mean time. Due to the possibility
of early hatch opening, there will be no change-of-shift
news conference this morning. There will be no change-of-
shift news conference this morning because of the possibility
of early hatch opening.

CC Skylab, how do you read? (static)

CC Skylab, Houston in the blind here. It
looks like Canary's had a little trouble with their tracking
antenna. We're not reading you. We should be picking up
on Ascension in about another 3 or 4 minutes. We'll give
you a call there.

SC We read you, Rusty. How about that?

CC Okay, yeah. The signal sync came in
just that time. PJ, are you around? I've got some words
for you.

SC He's donning his LCG. Have you got
something for him to do? Should he stop what he's doing or
what?

CC Let me - If he's listening, I can tell
him about the comm thing, and then we've got a condensate
tank procedure for him to run through. We think we got
a leaky QD on that line.

SC He's listening; go ahead.

SC Go, Rusty.

CC Okay, PJ. I'll tell you what - it
appears we've got a leaky QD on that panel 393 condensate
line. And what we'd like you to do is to go ahead and remate
the QD's and disconnect them again. And make sure that we've
got the cap on the line there coming out of 393.

SC Houston, yeah, I'll try that. I'll go
check it, and the cap is on.

CC Okay, understand the cap is on. I guess
we would like you to recycle the QD there to try and seat
it and reaffirm that - put the cap back on after you're done.
On the comm lash-up, PJ, go ahead and use your long cable coming
out of 102 and hook the light weight right into that. And
after you hook it in, you can close the audio breaker on 200.

SC Okay. The audio breaker's already been closed.

CC Okay.

SC You mean the CCU breaker?

CC That's affirmative. After you get the
light weight hooked up, go ahead and close the CCU breaker.

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SC Okay. Well, I've got them all hooked up. We've got three of them rigged up there; so I'll close that thing next time I go up. (squeal)

CC Okay, and from what we can see, your comm checks and all that should be completely normal in that configuration.

SC Okay.

SC (Garble) Rusty (squeal) (garble).

CC Pete, I'm sorry; we were not able to read any of that because there was a squeal.

SC Houston, Skylab.

CC Okay, we've got you at Ascension now. We had a handover from Canary to Ascension. Go ahead.

SC Roger. We have a PRIMARY COOLANT LOW

CAUTION.

CC Roger. That's the one we called up before. That was expected from - stand by.

SC Okay, that's a low temp, not a low flow.

CC Roger. Understand. We're checking it.

Hold on.

CC Okay, if any one is around panel 217 up there, we would like you to go SUS 1 to BYPASS on panel 217.

SC Okay, SUS 1 to BYPASS on 217. That'll be a couple of minutes. We've got to get FJ loose.

CC Okay, fine.

SC And it's important if you see any other configuration changes, have them do them now, because we're all going to be getting in or getting in suits and our LSU's in a minute.

CC Okay. Be advised as part of that condensate tank problem, we are, as well as recycling the QD's, - we are going to have to dump the condensate tank there prior to EVA. So why don't you figure on doing that, and we'll let you know if we need to do it immediately.

CC Okay, Joe, if you haven't already gotten up there, why don't you go ahead and disregard that bypass on SUS 1. We'll just turn the PRIMARY COOLANT LOOP off and handle it from here.

SC Wait a minute. Is that what you just did? We just had a warning light.

SC No, I got it up here. Now what happened - when I went to bypass there's something that started making a lot of noise around the (garble) packages, and we just got an EGA 1 warning light.

CC Okay. We read. Stand by.

SC And you want me to go back to EG - NORMAL or EGA on SUS 1, right?

CC That's correct.

SC Okay. I went back to NORMAL. That bypass sure makes a whole lot of noise. It squeals - it sounds like a

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high slow squeal, you know, when it's going around, I guess. I checked the QD. I reseated it. There was no evidence of any water around the condensate tank QD. It's been reseated, and the cap's back on.

CC Okay, Paul. I understand, and we'll get with you here in just a second on whether we need to dump the condensate tank. Hold on.

SC Well, it's empty now, Rusty.

CC Okay. Understand you're saying that it is empty at this time.

SC It's empty, but there's no DELTA-P in it.

CC Okay, thanks. Stand by 1.

CC PLT, when you say it's empty, you're looking at the bladder. But could it have - be full of air? That's what we suspect down here and that we would still have to dump into the holding tank.

SC It's not going to pick up the condensates during the EVA though as long as it's disconnected, right?

CC Stand by.

SC Houston, Skylab.

CC Go ahead.

SC The PLT reports that the bladder is at the empty end of the tank. It ain't full of air.

CC Okay, understand that the bladder is on the empty end, and therefore it is not full of air.

SC That's correct.

CC Okay, we're putting that into the grist mill. Stand by.

SC Okay.

SC Okay, here's the status. I did not look at the bladder before I disconnected the holding tank. Shortly after - about 10 - 15 minutes after unhooking the holding tank, we got the DELTA-P. I looked up. It was rapidly approaching zero at the time. I looked at the tank bladder. The bladder is all the way at the empty end, and the DELTA-P reads zero.

CC Okay, we read.

SC Houston, SFT. We want to know whether to get the PLT into his suit or not. Are you going to have action for him in a few minutes, do you think?

CC Okay. I'll tell you what. We've got about 2 minutes to LOS at Ascension here, and we'll advise before that 2 minutes is up, okay?

SC Good show.

CC Okay, here's the word. We got 30 - about 40 seconds to LOS, And PJ, before you get into the suit, we would like you to do, on page 2-40 of the SWS Systems Book,

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AM condensate tank dump. You'll be dumping overboard rather than into the holding tank. We do need to get a vacuum on the condensate removal system to do that (garble) primary vent heaters are better than the secondary that are called out there. And after completing that procedure, press on with the suiting and the rest of the work.

SC Okay.

CC That's page 2-40, AM condensate tank dump.

SC Roger.

PAO This is Skylab Control; 13 hours 49 minutes Greenwich mean time. We've had loss of signal at Ascension. We'll next acquire at Carnarvon in about 22 minutes. Just before LOS, at Ascension, we passed up a procedure to put a delta pressure back into the condensate tank. This delta pressure was lost several minutes ago during the pass. You heard considerable conversation concerning it. The procedure passed up is designed to get the tank back in proper condition. And Flight Director Milt Windler has received the word that the S054 problem will not constitute a safety hazard for the crew during the EVA. I repeat, it is not a safety problem. S054 continues to operate. Crew is not able to turn it off. And we've been unsuccessful commanding it off on the ground. However, there is no safety problem involved for Joe Kerwin when he goes up, toward the end of the EVA, to pin open the hatch - the cover of that experiment. We still have no positive indication whether the crew will egress early or the Flight Plan time. That will be their option. Flight Plan time for hatch opening: 15 hours 37 minutes Greenwich mean time. However, they could emerge as early as 14 hours 4 minutes. We're about 20 minutes away from AOS at Carnarvon. We'll come back up shortly before that time. At 13 hours 51 minutes, this is Skylab Control.

END OF TAPE

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PAO This is Skylab Control; 14 hours 8 minutes Greenwich mean time. We're just under 3 minutes away from acquisition at Carnarvon. There is a possibility that Conrad and Kerwin could have the hatch open when we acquire, or they may still be in preparations. Conrad's designation will be EV1, Kerwin, EV2, Weitz ZV3. Weitz has configured his communication so that he is free to roam somewhat throughout the vehicle up to the command module for television shots out the window there. He's also expected to take television pictures out one of the STS windows, that's one of the windows in the structural transition section of the airlock module. Although it's volume is effectively that also of the multiple docking adapter. That will be Weitz's primary station during the EVA or he will be reading procedures to the crew, monitoring their systems and the controls for the airlock module are in that section. The communications configuration will be EV1 and EV2 on VOX, voice operated microphones. Weitz will have to key his microphone for the ground to hear him. Conrad and Kerwin will be able to hear him without his keying, however, we will not hear him unless he keys. We'll stand by for the Carnarvon pass. Scheduled AOS in about 30 seconds.

CC Okay, Skylab. Houston here over Carnarvon for about 8-1/2 minutes. We see DELTA-P on the condensate tank so that looks good. And for your information, we're dumping the recorder here.

CC And Skylab, Houston, if you're reading, we're seeing DELTA-P on the condensate. For your information, we're dumping the recorder.

SC Okay. We got a problem with SUS 1, Rusty. It's not running smoothly.

CC Pete, I'm sorry, I did not read that. Understood you had a problem with SUS 1. We have some good words on what we would recommend you do on that.

SC Go ahead.

CC Okay, first we'd like to have PJ verify that even though he does not plan to use cooling that he did perform the steps on 1.2-7 of the EVA checklist. That is, hooking up the jumpers and that kind of thing up there on panel 217.

SC He took the jumpers off.

CC I beg your pardon, yes, that he took them off. Okay, but he did complete the steps on 2. - 1.2-7 as listed there.

SC If his LSU is plugged into a PCU which it's plugged into 217?

CC Okay, fine, then what we recommend is down

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on panel 317 and 323 in the lock compartment, that we turn both SUS 1 and SUS 2 pumps to OFF. Then on panel 317 the commander switch his - in his water inputs from SUS 1 to SUS 2. In other words, from the left side to the right side of the panel. And then on 323 turn the pumps back to PRIMARY.

SC

Okay. Want to run both EVA's off of SUS 2.

CC

That's affirmative.

SC

Okay.

CC

And since SUS 2 is working with no problems we feel that that's perfectly acceptable. And PJ expressed the opinion he did not need cooling. If for whatever reason he feels he needs cooling during the EVA there in the MDA, we recommend he go ahead and plug in to SUS 1; try it out, if he gets cooling fine. We expected some heat on the loop will solve the problem but we're not sure. But he can try it and if he doesn't get cooling he may be just a little warm.

CC

And Skylab, we're looking at the condensate here and you have a GO for the EVA based on the condensate. There's no problem with that.

CC

Okay, Skylab, and we just went around the room a little bit here and it looks to us as though, with the reconnection you're doing now, that we're GO here for the EVA. One advisory, we do still have power on on SC54. That's no problem. We just wanted to let you know and we'll be handling it from the ground. We see no constraints on - on your operation, no association with it.

END OF TAPE

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PAO This is Skylab Control; 14 hours 21 minutes Greenwich mean time. We've had loss of signal at Honeysuckle. About 5 minutes away from acquisition of signal at Guam. We'll keep the line up during this time. NASA Administrator Dr. James Fletcher, Deputy Administrator Dr. George Low, and Associate Administrator for Manned Space Flight, Dale Myers, are in the viewing room awaiting the start of this EVA. Bill Schneider, the Skylab Program Director from NASA Headquarters, and Kenneth Kleinknecht, the Johnson Space Center Skylab Program Manager, are at the management consoles in the control room proper. And we note that backup Science Pilot, Ed Gibson, and Director of Flight Cooperations, Deke Slayton, have joined the CAP COMs at their console. Johnson's Space Center Director, Dr. Christopher C. Kraft, is also in the control room at this time.

CC Okay, Skylab. We're with you again over Guam for the next 5 or 6 minutes.

SC Okay, Rusty. Something you might be thinking about is, I had that condensate tank to vacuum for a long time, while I was getting into the suit. And the max Delta-P I ever got on it was about 1 PSI. You might be thinking of that.

CC Okay. Understand. The max you ever got there during that procedure was 1 PSI, and the only consequence of that is that the dewpoint may be raising slightly during the EVA, there in the MDA. And we see it as no sweat. No pun intended either.

SC Understand. But it must be something wrong, if I didn't get 5 PSI, instead of - if I got 1 instead of 5, seems to me.

CC That's correct and we figure on going into troubleshooting after the EVA to psych it out.

SC I'll buy that.

PAO Skylab Control. We still see 5 pounds per square inch pressure in the airlock. So obviously the hatch is not open yet. Paul Weitz will be suited during this EVA. However, his suit will not be pressurized and he will not be wearing gloves or helmet.

CC PLT, Houston.

SC The PLT is in the middle of checking out his PCU, can I take the message?

CC Okay, yeah, Joe. I better go ahead and get it up to you. We've got about 45 seconds here before LOS. And we'll be picking up Goldstone at about 50. And we've got a final configuration here on this condensate system. The problem is that the humidity may be going up fairly fast if we don't do something about it. So what we decided to do, is just leave it in a vacuum mode and open it up to VACUUM.

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So what we'd like to do on 216 is take the pressure valve and go to VACUUM on it. We'd like to take the H2O valve and go to FILL. And we'd like to have the vent valve in PRIMARY, and the vent heaters on PRIMARY. And that'll just keep a vacuum on the back of the separators the whole EVA.

SC Pressure to VACUUM, H2O to FILL, vent heaters to PRIMARY, and the vent valves to PRI.

CC You get an A on that one, sir.

SC That's your final word, right?

CC That is guaranteed final word.

SC Until Goldstone.

CC Right. And by the way, we're set up for TV. If you get a chance and you'll probably want to switch your input switch from the AIM over to TV for us.

SC Okay.

PAO This is Skylab Control; 14 hours 33 minutes Greenwich mean time. We've had loss of signal at Guam. Goldstone will acquire in 16 minutes. We've again reconfigured the condensate tank, so that there will be no humidity problems during the EVA. As we lost signal, we were still showing pressure in the airlock. We've got about 5 minutes left in darkness in this revolution, number 345. The Apollo telescope mount television now being shown, was dumped earlier at the Texas Station. At 14 hours 35 minutes this is Skylab Control.

END OF TAPE

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PAO This is Skylab Control at 14 hours 48 minutes Greenwich mean time. We're two minutes away from the next Skylab pass over the United States beginning at Goldstone. We are prepared to receive television during this stateside pass if the crew desires to transmit. We'll stand by now for acquisition at Goldstone.

SC - - psig. Paul, can you time us for one minute? Okay, Pete, it's going to be FLOW OFF, and then on my mark, PRESS OFF and that starts the one minute, you ready?

SC No, no, God damn.

SC What's the matter?

SC Well, just a second.

SC Oh, you lost that thing, huh?

SC Well, I had to take it off. I couldn't

get to REG 2.

SC Oh, for Christ's sake.

SC I'm not sure this is -

SC I want to take this with me.

SC Oh, (garble).

CC Hous - Skylab this is Houston. We've got

you for a long pass here over the states.

SC Okay. Let's go to - let's go flow to

OFF, now.

SC Okay.

SC Let's go PRES to OFF and start your

one minute count, Paul.

SC Houston, are you reading EV1 and 2.

CC Yes sir we are. We've got you loud and

clear and we see you're in the integrity checks.

SC That's correct.

SC Well, I topped out at 39.

SC Okay, mark it from there. I didn't go

for 3.75. So punch (garble).

SC Okay, we're holding good. At least I am.

SC One minute, it's PRESS to BOTH and then

flow to IVA.

CC Okay.

SC Okay, I get no decay. PRES to BOTH?

SC Okay grunt I've got flow.

SC You too?

SC Yeah. Okay.

SC All right. How was your decay?

SC At about a half.

SC About a half. Okay, we're in spec.

All right the cuff gage is stable at 363.9. MODE SELECT to ABSOLUTE. Let's depressurize. And Rusty this diverter "clot goober" is kind of a pain in the neck during checkout. I

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have to partially tear it off to get at the valve.

CC Okay. You should be able to move it
right through the EDD there.

SC You should, but you can't.

CC Well, okay.

SC The other thing that's in my way Rusty is
I can't get into REG 2 with those pliers on there.

CC Okay. We would recommend either a quicky
other place or just forget them, Pete.

SC I think I'd like to forget them.

SC How about in here. Let me tie them on one
spot on mine. (Garble) originally selected let me see if -

SC Rusty, are you reading PLT on the light
wave?

CC That's affirmative. You're coming through
five square, PJ.

SC Okay.

SC Hey, I was - I loose them - I loose them
they're not in the way.

SC Okay.

SC Say, PJ.

SC Yeah.

SC After you get the umbilical stowed you're
going to have to get SO82B or A, bring it back there on the
stretch strap and just tether it in the aft block, dig?

SC Have got to crawl over it.

SC I'll get up into the MDA for you while
you do that. And Paul we're ready to go on your checklist.
Our cue card is all done.

SC Okay.

SC (Garble).

SC Okay.

SC How thick are those two?

SC I don't know.

SC 13. Is mine the one you stow first?

SC Oh, yeah.

SC Okay.

SC You go up first. Think you might move
up while he stows.

SC That's DELTA-P you've got on that conden-
sate tank now.

CC Okay, we're showing about .87 on the
DELTA-P and we figure you're GO either way. We think that
it'll probably take a little moisture out but it may not be
too efficient and w'll get with it after the EVA.

SC Okay.

SC I've got to do it. 180.

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SC Okay, that's not right.
SC Do 180 one more time.
SC There you go. Very good.
SC Okay, start working Joe. Okay.
SC Bill, I'm waiting for your GO to come in and
close the hatch.
SC Here I am.
SC Okay.
SC In the aft lock, Pete, not behind you.
SC Yeah.
SC Keep it in here. It's okay. We've all
ready it handled, Paul.
SC Well, let me see which way I can roll
here.
SC Let me get another handle on your umbil-
ical.
SC Okay.
SC All right. Let's sync umbilicals.
SC Okay that's clean.
SC The other thing is we've got to make sure
that aft lock door is logged down good. Turn out the lights.
SC Oh, yeah. Oh, I'm going to close the
hatch first. I did.
PAO That's the hatch between the multiple
docking adapter and the airlock module, not the outside hatch.
SC The hedge handle is open. All right.
Yes. UNLOCK. CLOSE. It didn't, but I put it to LOCK. Now
It is in lock now and (garble) start down, okay? In works.
OFF. All right we'll work that right now. I will. I'll
be standing. That's good.
SC Let me get this hatch right here. Right
here.
SC Super.
SC Okay, all my umbilicals in the aft lock
now, I think. What are you doing kid?
SC Well, we had to - the aft airlock hatch
came loose once - just making sure the straps have got it
strapped down.
SC I don't need that floating around.
SC Okay.
SC Under my right arm.
SC All right. What'd I do, another 360
again? Need 180, Paul? Is that what I need to do?
SC Yeah, you're in good shape now that's
exactly right, Pete.
SC What now?
SC One thing that's got to go back there is
82B - 82A, (keep getting it screwed up.)

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SC (Garble)
SC Looks fine, but it is fine.
SC All right, Pete can you speak for us here
with 82A?
SC Think you can.
SC Let me try this right here. That's about
as close to the floor as I can get.
SC Yeah, that's plenty. I'm half behind you
and he's got a good half of the hatch open.
SC Okay. Houston, do you read?
SC Yeah, sure.
SC Tie it fairly close to the thing though.
Don't want to move it around too much. Guess, Houston, how
many minutes to sunset?
CC Okay, Pete, we're about 35-1/2 minutes from
sunset. We see some power - rather high power usage down
in the OWS. Can you verify that you turned all the lights
off down there?
SC Yes, all the switches were off panel 617
or whatever it is and the entry lights are off.
CC Okay, and do - -
SC Actually, I can't verify that visually
right now, Rusty.
CC Okay, and can you verify having turned
off the VCS duct fans?
SC No. Paul says he did not turn out the
VCS duct fans. Do you want them off?
CC Yeah.
SC You can -
CC Stand by just one.
SC You go down there and get them. That's
all right, we got time.
SC I'll hang on to that, Paul, I've got it.
CC Okay. Disregard that. Do not go back
down into the OWS -
SC Paul is standing by to do so if you
want him to.
SC We've got time, Houston.
CC Okay if Paul can get past you there
and get the aft hatch open and get down and shut off the fans
and verify the lights.
SC Verify the lights. Okay he's on his
way.
CC Okay, fine.
SC Like the pressure in here now?

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CC Okay, Paul, if you read down there -
SC Paul doesn't read you yet. He's waiting
for pressure to equalize across that hedge.
CC Okay, fine. Perhaps you can relay
to him when he gets down there that we want the panel 614
circuit breaker, TCS duct 2 and 3 fans - 8 of them OPEN.
SC Paul says that the pressure is higher
in the workshop side of the hedge. That's kind of screwy,
Rusty. Why is that?
CC Stand by. That does sound -
SC Or is it a discrepancy in our gages?
CC Joe, does Paul have the EVA checklist
in his hands?
SC No.
CC Okay, when he gets down there I'm pre-
pared to read the particular steps that we think were omitted
here. So will he be able to hear me on a SIA down there?
SC I expect so.
SC Still equalizing.
SC He still hears the pressure equalizing
through the valve.
SC Still equalizing?
SC Still equalizing?
CC Okay, we're reading 2/10 of a psi DELTA-P
with the lock slightly higher. He's probably hearing it go
the other way.
SC The lock is higher.
SC No, this way.
SC They say the lock is higher.
SC Well, he can find out in a hurry when
he opens the hatch, which he is about to do. (Laughter) We
got a little rapid DELTA-P there.
CC Okay, understand you got the hatch open.
SC Yeah, the hatch is open. He's going to
go shut off the warning com.
CC Did he run a Navy catapult down into the
experiment compartment?

END OF TAPE

SL-II MC637/1

Time: 10:06 CDT, 14:15:06 GMT

6/7/73

SC (Laughter) We got a little rapid DELTA P there.

CC Okay. Understand you got the hatch open.

SC Yeah, the hatch is open. He's going to go shut off the - the warning call.

CC Did he run a Navy catapult down into the experiment compartment?

SC It's still in the airlock, Rusty.

SC No, the hatch did not blow open. You'll have to ask him which way the DELTA P was, I couldn't tell by looking.

CC Okay. We were just worried about a swing shot there.

SC Yeah.

SC No, it just popped about a half an inch.

CC Okay. Let me know when he gets down there and I'll read these steps to him.

SC Rusty, I'm not going to hear you down there. What do you want me to do?

CC Okay, here you go, Paul. On 614, circuit breaker 2 ICS duct 2 and 3 fans, 8 of them OPEN.

SC Okay.

CC And also the CB HSS bus 1 wardroom water heater, OPEN.

SC Okay.

CC And then on 613, CB lighting; 42 of them OPEN.

SC Holy mackerel. All right.

CC Okay.

SC When I drop down to track in the checklist, you'd better (garble) in it.

CC Okay.

SC No, I remember them talking about it last night, and what they were going to power down, but I don't --

CC -- It never came up on paper.

SC I didn't read that part in the paper.

SC Not that it wasn't there.

SC Paul said you were right, it was slightly higher in the airlock.

SC The pressure that is.

CC Okay.

CC Okay, and for your information, we still have 30 minutes to sunset, so there's no sweat.

SC Yeah.

SC Okay.

SL-II MC637/2

Time: 10:06 CDT, 14:15:06 GMT
6/7/73

SC We're - we're taking our time. We got all day.

CC How's the cooling feel, by the way?

SC Fine, two of us on --

SC Lucky we're smart enough to on SUS 2 at the start.

SC What do you think happened to 1? Did it freeze up?

CC We're not really sure. We think it probably needs a little bit of heat in the loop before we turn it on but we've got a little procedure here for PJ in case he wants some cooling.

SC He might want some cooling. It's pretty warm with that suit on.

CC Roger. And we've got a procedure for him. And we'll read that to him - in fact let us know - probably we'll do it over Ascension. Everything should be pretty well organized by that time. We're 1 minute until LOS at this point, and we're going to pick up Ascension at 17.

SC Okay, he's turning everything out down there right now. I can see down there.

CC Okay, fine.

SC Okay, I got DUCT 2, DUCT 3, the wardroom water heater and I didn't count them, but I got all the light circuit breakers I could see.

CC Okay. Can't ask for more than that. Thanks a lot.

SC Of course, now that they're all open and can't see. Now the emergency light is still on. Get that up here.

CC That's affirmative.

SC Up here and down there, Pete, it looks like over to me.

SC Right now it looks to me like I'm looking down. (laughter) That's cause Pete is looking over - -

SC Good old imagination; it certainly becomes hook.

SC Besides that, he's climbing. (garble)

CC We got some people at Pensacola very interested in that, Pete.

SC Well, up and down is strictly a matter of how you want to do it. Every night the world goes by so that you lay in the wardroom ceiling to get the world right side up and when you come back in from looking at the world right side up, - -

SL-II MC637/3

Time: 10:06 CDT, 14:15:06 GMT
6/7/73

SC

You got a wardroom table growing --

SC

You've got a wardroom table growing out
of the ceiling (static)

CC

We'll pick up the continuing side of and
up - of up and down at Ascension here in a few minutes.

PAO

This is Skylab Control; 15 hours 9 minutes.
We've had loss of signal at Bermuda. We'll pick up Ascension
in about 7-1/2 minutes. Paul Weitz going back into the
orbital workshop along toward the end of this last pass to
turn off some lights and some fans and the wardroom water
heater. This will conserve 200 watts of power during the
EVA. Still have about 26-1/2 minutes of daylight remaining.
Skylab now in revolution 346. We'll come back up a few minutes
prior to acquisition at Ascension. At 15 hours 10 minutes,
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-638/1

Time: 10:15 CDT, 14:15:15 GMT

6/7/73

PAO This is Skylab Control; 15 hours 15 minutes Greenwich mean time. Two minutes away from acquisition at Ascension Island. Flight Director Milton Windler will be going around the Control Room getting a GO for hatch opening after we acquire at Ascension.

SC All right. Now I depress how far?

SC All the - Okay.

CC Okay. Skylab, Houston. We've got you for about 5-1/2 minutes here over Ascension.

SC Okay, Houston. The lock's on the way down, 4.2 and dropping.

CC Roger. Understand.

SC Okay. My suit's hanging right in there at 385.

SC It's ah - 375's what I've got.

SC There'll be some difference there (garble).

SC Houston, PLT. You might take a reading on the MDA pressure, just for information, so you can check the crew. They indicated it got up to about 53 to 54 in here before we went DEPRESS.

CC Okay. We got it.

SC There's 2 in the lock, 385 on my suit.

SC Okay.

CC Okay. And Houston here. You're GO for a hatch open anytime you get it down there. Systems are all looking good.

SC - - the Hell did all this junk come from?

SC Okay.

SC I've got the TV on. You got TV, Houston?

SC Houston, you may be interested in knowing that on the lock DUMP VALVE, a large block of ice is growing, on the screen.

SC (Garble) is?

SC Yeah.

SC I couldn't figure out what it was.

CC That on the inside, Pete, or on the outside?

SC On the inside.

SC Must have been enough moisture in the air, Rusty, that as it hit the screen, why - must have been super cooled; it froze. And it's a rather weird looking fellow. That's what's making the lock take so long to dump down. I'd say it cuts the - -

SC Did you scrape at it with your finger?

SC No, it's a solid block. I guess I can.

Well, I don't want to.

SC I'm sure that helped (garble)

SC All - all - all - All I did was block it more. I better leave well enough alone.

SL-11 MC-638/2

Time: 10:15 CDT, 14:15:15 GMT

6/7/73

CC How about breathing on it?
SC Well, I thought about that, but - -
SC Yeah, I'm showing 0.8 also.
SC It's blocked about two-thirds of the screen.
CC Okay. You've got a nice tool in there
called a pry bar you might want to poke at it with if it
does block it completely.
SC (Garble) it's star - it's started making
ice - -
SC It's in the pores of the screen, Rusty.
We'd have to break the screen in order to get it off.
SC I don't want to do that. There's debris
there and everything.
SC Leave well enough alone.
SC Okay.
CC And, PJ, if you've got a minute there,
while they're going down, sometime on panel 203, we'd like
to turn the ATM coolant loops - loop pumps - all three of them
off. Like to have you verify that.
SC You know what's happened here. Our (garble)
is equal to what it'll take out now. It's holding about 1/2 psi.
CC Okay. We're reading that, Pete.
SC (Garble).
SC You think we dare open the hatch at 1/2 psi?
SC No.
SC I hate to tear into my pry bar, Rusty.
I'm looking around for something else that I might use. My pry
bar is neatly packaged.
SC The only thing I can give you is the
brace - -
SC I got - I got something here.
SC (Garble)
SC You want to tickle it with the handle?
Oh, all right.
SC Something skinny to stick down in between
the mesh.
SC Okay, that's ah -
SC Getting something?
SC I got some of it.
SC What?
SC Okay. Yeah.
SC Are we over Houston?
CC Yes, go ahead, Pete.
SC Did you read that, Houston?
SC What's your last?

SL-II MC-638/3

Time: 10:15 CDT, 14:15:15 GMT

6/7/73

SC Paul - Paul left the procedures (not that we need them) down in the wardroom, neatly in his locker. How about uplinking your TV procedures next station?

CC Okay. We'll do that.

SC You can wait most of it. We've got it pretty well committed to memory.

CC Okay. We'll get the two messages up.

SC All right. Now we look like we're about 0.2. What do you read, PJ?

CC Okay. 0.3 is okay for opening the hatch, Pete.

SC All right. Go.

CC Well, well done.

SC There goes the hatch. I'm gonna - -

SC Go ahead on the procedures, PJ.

CC Okay. We've got 20 seconds to LOS, and we'll pick you up over Carnarvon at 47.

SC Okay.

SC Okay.

SC I'm there.

SC I'm reading about 35.

SC I'm just going. I have to take that silly thing off and put it on again every time I move that. It's okay, and I'm reading 3.45.

SC It's in both.

SC EVA norm on the full?

SC I got good pressure (garble) off.

PAO This is Skylab Control; 15 hours 24 minutes Greenwich mean time.

SC It missed (static, garble).

SC I hope it doesn't (garble).

SC No. (static)

PAO This is Skylab Control: 15 hours 25 minutes Greenwich mean time. - -

SC (Garble) (static)

PAO We had a late LOS at Ascension. We do finally have LOS there. Next acquisition at Carnarvon in 22-1/2 minutes. There's about 11 minutes of daylight left. Crew was opening the hatch, opening the airlock hatch as we lost them at Ascension. There are lights in the fixed airlock shroud area. So they will be able to continue the work of assembling the tools in that area and moving up to the discone antenna area, upon on the edge of the MDA, directly over the solar array wing. We would not expect them, however, to go down to the beam area, the beam wing area, during the darkness. There are no lights in that area. Copied the hatch opening time as 15 hours 23 minutes 20 seconds Greenwich mean time. At 15 hours 27 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC-638/2

Time: 10:15 CDT, 14:15:15 GMT

6/7/73

CC How about breathing on it?
SC Well, I thought about that, but - -
SC Yeah, I'm showing 0.8 also.
SC It's blocked about two-thirds of the screen.
CC Okay. You've got a nice tool in there
called a pry bar you might want to poke at it with if it
does block it completely.
SC (Garble) it's star - it's started making
ice - -
SC It's in the pores of the screen, Rusty.
We'd have to break the screen in order to get it off.
SC I don't want to do that. There's debris
there and everything.
SC Leave well enough alone.
SC Okay.
CC And, PJ, if you've got a minute there,
while they're going down, sometime on panel 203, we'd like
to turn the ATM coolant loops - loop pumps - all three of them
off. Like to have you verify that.
SC You know what's happened here. Our (garble)
is equal to what it'll take out now. It's holding about 1/2 psi.
CC Okay. We're reading that, Pete.
SC (Garble).
SC You think we dare open the hatch at 1/2 psi?
SC No.
SC I hate to tear into my pry bar, Rusty.
I'm looking around for something else that I might use. My pry
bar is neatly packaged.
SC The only thing I can give you is the
brace - -
SC I got - I got something here.
SC (Garble)
SC You want to tickle it with the handle?
Oh, all right.
SC Something skinny to stick down in between
the mesh.
SC Okay, that's ah -
SC Getting something?
SC I got some of it.
SC What?
SC Okay. Yeah.
SC Are we over Houston?
CC Yes, go ahead, Pete.
SC Did you read that, Houston?
SC What's your last?

SL-11 MC-638/3

Time: 10:15 CDT, 14:15:15 GMT

6/7/73

SC Paul - Paul left the procedures (not that we need them) down in the wardroom, neatly in his locker. How about uplinking your TV procedures next station?

CC Okay. We'll do that.

SC You can wait most of it. We've got it pretty well committed to memory.

CC Okay. We'll get the two messages up.

SC All right. Now we look like we're about 0.2. What do you read, PJ?

CC Okay. 0.3 is okay for opening the hatch, Pete.

SC All right. Go.

CC Well, well done.

SC There goes the hatch. I'm gonna - -

SC Go ahead on the procedures, PJ.

CC Okay. We've got 20 seconds to LOS, and we'll pick you up over Carnarvon at 47.

SC Okay.

SC Okay.

SC I'm there.

SC I'm reading about 35.

SC I'm just going. I have to take that silly thing off and put it on again every time I move that. It's okay, and I'm reading 3.45.

SC It's in both.

SC EVA norm on the full?

SC I got good pressure (garble) off.

PAO This is Skylab Control; 15 hours 24 minutes Greenwich mean time.

SC It missed (static, garble).

SC I hope it doesn't (garble).

SC No. (static)

PAO This is Skylab Control: 15 hours 25 minutes Greenwich mean time. - -

SC (Garble) (static)

PAO We had a late LOS at Ascension. We do finally have LOS there. Next acquisition at Carnarvon in 22-1/2 minutes. There's about 11 minutes of daylight left. Crew was opening the hatch, opening the airlock hatch as we lost them at Ascension. There are lights in the fixed airlock shroud area. So they will be able to continue the work of assembling the tools in that area and moving up to the discone antenna area, upon on the edge of the MDA, directly over the solar array wing. We would not expect them, however, to go down to the beam area, the beam wing area, during the darkness. There are no lights in that area. Copied the hatch opening time as 15 hours 23 minutes 20 seconds Greenwich mean time. At 15 hours 27 minutes, this is Skylab Control.

END OF TAPE

SL-II MC639/1

Time: 10:42 CDT, 14:15:42 GMT

6/7/73

PAO This is Skylab Control; 15 hours 43 minutes Greenwich mean time. We're about 5 minutes away from acquisition at Carnarvon and we've about 30 minutes of darkness remaining for Skylab. The block of ice that formed on the dump valve screen on the hatch is expected to discipate prior to the end of the EVA. And it's not anticipated that it will cause any problem for the crew. During this Carnarvon pass we will probably also pass up a procedure to Paul Weitz. You've heard considerable discussion about his SUS loop, that's the suit unbilical system loop. Temperature in that system is a little bit low to permit it to operate properly. We'll pass up a procedure to - to bring up the temperature so that he can utilize that system for cooling if he needs it. We won't know where the crew is in their EVA procedures until we have acquisition. Procedures do call for Pete Conrad to get out of the hatch first, get himself in the foot restraints in the shroud area. Then Joe Kerwin is to pass out the beam extension tether which Conrad will stow on a handrail in the shroud area. Then Joe Kerwin will pass out the sections for the handle to the cable cutter. These are the same rods that Paul Weitz used during the standup EVA shortly after this crew rendezvoused with Skylab. The cable cutter pole will be approximately 25 feet long. Will be assembled by Conrad. Kerwin will then move from the shroud area up to the base of the discone antenna using handrails and the Apollo telescope mount truss to work his way up to this area, tether himself to the base of the antenna, Conrad will pass the cable cutters to him and then traverse up into the same area bringing the beam extension tether with him. This beam extension tether or BET as you will hear it called, is about 34 feet long, not counting the hooks on each end. It's a quarter inch diameter rope made of synthetic fibers. Very tough, very strong; will not stretch. They're expected to wait in this area for daylight prior to attaching the cutters to the aluminum strap on the solar assembly wing beam that they want to cut. And the cutter poles will be used as a handrail for Pete Conrad to work his way down to the beam area. We're about 30 seconds away from acquisition, and we'll stand by for the first conversation.

SC Out here, you can see it's got that discone tray on it still.

SC He way up over.

SC Hey, I see it.

SC How far around can you see?

SC I can see most of the discone tray. I can't see the surface. And I can't see the discone itself, it's too dark.

SL-11 MC639/2

Time: 10:42 CDT, 14:15:42 GMT

6/7/73

SC I'm looking for the other discone. I wonder where the hell that is. It's down here.

SC Where the hell's the world anyway?

CC Houston, we're right here. We're listening loud and clear.

SC Oh, I didn't mean the world world, I meant the clouds and Earth and sea world underneath.

CC Okay, would you like a little status.

CC Yes, sir, we would like a status.

SC We have 5 poles rigged swinging on the hook. And we're just intrepidly peering around out here deciding how far around Joe can get, in the dark. We have not pulled umbilicals out. We're just cooling it. Now, the pole assembly went super slick. We had a little - I had a little juggling problem getting the last longie with the tool on because I did it surprisingly enough by having Joe hold on it in the airlock. We had it all the way in the airlock and I found a way to snudge the pole out next to the solar panel over to the ATM sun inside and just line her up that way and pop her on. And as would be at zero G you know those nuts do funny things. Most of them we had checked them last night. We had backed off most of the locking nuts but as you can guess that's what we did with them is back them off. They went and unbacked too tight, so we had to mess with those a little bit but she's all rigged and ready to go hanging on the hook here. Also, let me tell you the status to the outside. I have pulled the boom launch locks on both booms, CC and CS. I have installed the CS hook and we have loaded S082A into the first station receptical and we're just standing by right now.

CC Okay. Is that the receptical in the FAS, Peter? The one in the lock compartment.

SC It's no - the receptical's in the SAS. It's stowed in the FAS right now.

CC Okay, you got a lot of time.

SC We're all configure to - to load it.

CC Okay.

SC I wanted to go load it and Pete wouldn't let me.

SC Yeah, Joe wanted to go load it, but I decided we'd get off the checklist and we'd get all wrapped around the axle doing that, and the primary thing is to get this SAS panel out. So we're resting hanging outside. I'm enjoying a lovely look at the Moon.

CC Yeah, that (garble)

SC (Multiple speakers)

SL-11 MC639/3

Time: 10:42 CDT, 14:15:42 GMT

6/7/73

SC See --
SC Well --
SC Go ahead, Paul.
SC Yeah, I'm ready to start working on getting
some cooling water, if you think you got a way.
CC Okay, PJ, we do have a way to do that
for you. Are you ready to copy?
SC No, I'm not. Can you just tell me?
CC Yeah, okay, forget that. Are you ready
to listen?
SC Yeah.
CC All right.
SC I want to tell you something. First off
I can't get the SUS 2. If this includes the SUS 2, I can't reach
them.
CC Okay, we are not interested in having you
get the SUS 2. We'll be using SUS 1. What we'd like to do
is confirm that - what you're going to be doing. You've got
the composite disconnect hooked up to your PCU and that you'll
be plugging in and out of the PCU with the suit. That is,
you'll break that connection rather than than the composite.
SC That's affirmative. That's what I've been
doing so far this morning. And I've - Let me tell you I've
been running this secondary pump for about 20 or 30 minutes,
and I been plugged into it for about 10 minutes so far, and
that's the status.
CC Okay, so I understand you are flowing
right now on secondary pump in SUS 1. Is that correct?
SC I don't know if I'm flowing or not. If
it's flowing, it's not cold.
SC Hey, PJ.
CC Okay. PJ are you in BYPASS or EVA on the
flow?
SC I left it in EVA per your last instruction.
CC Okay, fine. And if you are - If you feel
that the flow is warm now, the next thing we recommend is
going over to panel 203. Going PRIMARY COOLANT LOOP to
INVERTER 1, and PRIMARY COOLANT LOOP to PUMP A.
SC Okay. Can you tell if the pumps are
running down there?
CC Yes, sir, we can confirm that when you
turn them on.
SC No, I'm talking about this SUS pump. Can
you determine if SUS 1 secondary pump is running?
CC Stand by.
SC Hey, PJ, why don't you kill some of the
lights to save power?

SL-II MC639/4

Time: 10:42 CDT, 14:15:42 GMT

6/7/73

SC We're all done working.
SC Oh, that's okay. Turn them all out.
CC Okay, PJ, we cannot because of the possible instrumentation problem, we cannot confirm flow or DELTA-P on secondary pump. What we recommend is going ahead and switching SUS 1 pump to primary and - and see if you sense any difference there. And when you get the primary running, or if - if you feel the secondary pump is running, then go ahead and activate the coolant loop when the flow gets warm for you.
SC Okay. Watch the timer then, I'm going to switch it now.
CC Okay.
SC Oh, there's the Earth. How about that?
SC You found the Earth?
SC Yes, with the lights out, it's lovely.
SC What part of the world are we over?
CC You're over Western Australia, sir.
SC Western Australia. I see some large lights out to my left, and if we're actually over Western Australia and I'm looking eastward -
CC No.
SC Okay, primary SUS 1 pump is ON. Can you see it? The thing that bothers me, Rusty, is when I turn that pump on I don't get a caution and warning.
SC Want to look out, Joe?
SC Yeah, I'm looking out behind you. It's okay.
SC Look, there's a half a moon - -
SC You can see the lights, you can see the moon light on the clouds.
SC Oh, I can see the city.
SC Yeah, from horizon to horizon.
CC Hey, can you guys wait a minute so we can get a word to Paul.
SC Yeah, go ahead.
CC Okay, Paul we would like you to go to BYPASS on the flow there on the heat exchanger first if you have not already done that, before you activate the coolant loop.
SC Okay, will do when I get the primary pump ON. Did you copy my thing about no caution and warning?
CC Understand you got no caution and warning on it.
SC Yeah, either one. On SUS 1, when you turn on either the primary pump or the secondary pump we don't get the EVA 1 whine. And I want primary pump now; I have not activated the primary loop and I'm going to BYPASS now.

SL-II MC639/5

Time: 10:42 CDT, 14:15:42 GMT
6/7/73

CC Okay, and let us know about the noise and also let us know whether you feel any sensation of cooling.

CC And Pete, for you, let me ask whether the docking lights appear to light up the discone so you can go on up there or not?

SC Well, I never got around that far. I can't really tell.

SC The flood.

SC Oh, who turned on the flood - traction light? Turn that off.

SC You go take another look?

SC Well, I can skinny around here if you'd like to see the other side, Paul.

SC Just a second.

CC Pete, as a reminder here, on your next station you going to want to pull 55 feet of EV 1 umbilical - and put it behind you in the FAS. And then before Joe comes out he wants to pull out into the air - into the lock compartment 35 feet of his umbilical.

SC Yeah, we understand.

SC I can see the - I can see the discone from here perfectly.

SC Which one?

SC Mine, the one of interest. The one - -

SC Where are you?

SC I'm up here --

SC -- around the corner.

CC I see.

SC And the green docking light illuminates the area fairly well. I think we can get started.

SC Okay.

CC (garble) lights it up well. You can turn - PJ can turn off the other docking light and that'll save us some power.

SC I don't understand.

CC Okay, Pete you got two circuit breakers over on panel 202, the left hand end next to bottom row, and I'm not sure which one turns off the green and which one turns off the red --

SC That doesn't cut it.

CC -- and Joe can give you the answer.

SC Okay. All right., give me a holler, Joe. I'm turning them off one at a time. Tell me when you want.

SC Okay.

SC That's okay, leave the other one on.

SC No. That one. No, that's right. (laughter)

Okay.

SL-II MC639/6

Time: 10:42 CDT, 14:15:42 GMT

6/7/73

SC Pete, I guess I'll get your umbilical out.
SC All right.
CC Okay, and troops we got about 45 seconds
to LOS at Carnarvon. We're going to be picking up Guam at 16:01
here which is just a couple of minutes. And I figure you're
going to press on up to the discone at this time. And PJ, how's
the cooling?
SC There is none, Rusty, yet. And when is the
first station with TV.
CC Okay, that's going to be Goldstone. It'll
be coming up at 16:27, so we'll let you know that at Guam.
SC All right, tell me where it's going.
SC It's going behind you.
SC Okay.
SC Here comes the big snake man.
CC And Pete, you got about 14 minutes before
sunrise, so you got lots of time there.
SC How far have you got to now?
SC 40.
SC (garble)
SC (laughter)
SC Holy Christmas.
SC 45, where's it all going? 50.
SC Gee, I wonder if there's anything it can
hang up on down there?
SC 55, (garble) for you, if there is.
SC (static)
PAO Skylab Control; 15 hours 59 minutes. We've
had LOS at Carnarvon. Two minutes away from acquisition of
signal at Guam. Pete Conrad reported the assembly of the
cable cutter pole went super slick. He's out in the shroud
area and the foot restraints. It appeared that Joe Kerwin
was standing in that hatch, still in the hatch area where
he can pull out the umbilical from the airlock which he's
doing now. Fifty-five feet of Conrad's umbilical, 35 feet
of his own.

END OF TAPE

SL-II MC-640/1

Time: 11:00 CDT, 14:16:00 GMT
6/7/73

PAO - - which he's doing now - 55 feet of Conrad's umbilical, 35 feet of his own. Obviously, they were enjoying watching the world go by. Pete Conrad mentioned he was also enjoying a lovely look at the Moon and the stars and could see lights of cities as they passed over western Australia. In fact, they chatted so much between them that Rusty Schweickart had to break in so that he could continue some procedures to Paul Weitz to fix up his umbilical. Twelve minutes remaining in darkness and about 30 seconds away from acquisition at Guam. We'll stand by.

SC Now I just hope that by screwing around, we haven't made a loop where there was none before. (Garble)

SC (Garble) there was an apparent loop.

SC Huh?

SC Is this mine?

SC Yes.

SC Trying to figure out where it goes.

SC It goes (garble) round to your back and in the (garble).

SC Co.

SC Here.

SC Yes. That's the next end of it.

SC Right here. Let me get it down.

SC Get it?

CC Okay, Skylab. This (s Houston again. Over Guam for about 8-1/2 minutes.

SC Okay. Roger.

SC Hey, you're going to get worn out doing the things that require you to get there.

SC Do it.

SC Well, that's a big snarl down there. Hope it all comes out right.

SC Now I suggest you take that loop in your hand and put it up over your head.

SC Nope.

SC How did we do that?

SC Well -

SC Huh?

SC I'm just checking it. Okay.

SC You all right?

SC Yeah. And it all goes behind.

SC You got your's?

SC Mine's in reasonable shape, I think. It's all behind me.

SC Okay.

SC See how it strings out right now.

SL-II MC-640/2

Time: 11:00 CDT, 14:16:00 GMT

6/7/73

CC Pete, just for information, we do have you for about 8 minutes here. And we've got the procedures in case you want anything on them.

SC Okay. Aren't you going to up-link them?

CC Yes, sir, we are. And I'll give you an estimate on when they're going to be up there.

SC Okay.

SC Okay, Rusty. No joy on the cooling yet.

CC Okay, Joe, Paul. The question is have you activated the PRIMARY COOLANT LOOP on panel 203?

SC Rog, man.

SC Hey, Joe. I think you want to go to (garble) left.

SC I'm deciding where the best handles are right now.

SC You want to go to 1-pump Alfa, right?

SC Right. We want PRIMARY COOLANT LOOP to INVERTER 1, and we want PRIMARY COOLANT LOOP PUMPS-A ON.

SC All right

SC All right, yes. (Garble) fragile handles here; they're beautiful.

SC Rusty must have known about them.

SC He didn't tell us.

SC I hear a CAUTION AND WARNING, Paul?

CC All right, Joe. Are you going through the trusses or up over the top? You should be going through - -

SC Through, through. I'm right on the MDA surface.

CC Okay.

SC I'm looking at Paul through the window right now. The other window, Paul. Hi there.

SC That's correct, isn't it, Rusty?

CC Yes. We should be right down. And the nicest path we found was right along the mol sieve vent duct. There's about 6 inches of diameter with a silver (garble) --

SC Told you, i'm hanging onto a blue hand-rail that's just forward to that.

CC Okay. Fine. We didn't hang - -

SC I've got one hand on the handrail, one hand on the vent duct, and I'm looking at the discone antenna.

SC Did you see the pin?

SC (Garble) you. No, it's too dark at the base. The base of the antenna is pretty dark.

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Time: 11:00 CDT, 14:16:00 GMT

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CC Okay, Joe - -
SC Paul. Paul.
CC The next thing you'll be doing when you
get enough light is to go up and hook your chest tether into
the pin at the base. And then retreat backward, behind you
there, to the A-frame.
SC Understand. And, Pete, I think I'll
delay that until sunrise. So I can - -
SC All right. Just a minute.
SC -- surely see what I'm doing.
SC Just a minute.
CC Okay. And for your information you've
got 7 minutes to sunrise.
SC Just a minute. Paul, why don't you shine
your flashlight out the window? You can illuminate the pin
in the lower end of the discone.
SC You should have a pin light in your suit.
I put it in.
SC Our friend, Scorpio, is right smack on
top of us.
SC In a big bowl of milk. Go ahead and
try it.
SC I'm afraid - It's shining at the base of
the antenna, but --
SC Move to the right just a little.
SC It's not good enough, Pete.
SC All right.
SC If I try to go out there, I'll block
his light.
SC Understand. Just cool it.
CC Pete, how's the rest of the lighting
down there in the SAS and down the EV trail?
SC Oh, we've got all the rest of the lights
out, and all - Oh, that's fine out there. Yeah, you can (garble)
broad daylight. We've got all the lights out except the lock.
Lights are on in the lock, and that's it. And that one docking
light.
CC Okay.
SC (Garble) do you have us over now?
SC (Garble)
SC Flying over some really well lit island. Must
be Guam.
CC Yeah, you're almost directly over Guam.
SC Yeah.
SC Hi there, Guam.
SC Hi there.
SC Hi, Guam. I'm looking the other way.

SL-II MC-640/4

Time: 11:00 CDT, 14:16:00 GMT

6/7/73

SC Getting wild. Don't get (garble) up.
SC Oh, hey, Houston - -
CC Go ahead.
SC (Garble).
CC Say again, Paul.
SC I say for your information (garble) - -
SC All right, I'll close my eyes, Pete.
SC No, I said don't get (garble), that's
all.
SC I'm just laying here sight seeing.
SC I can see your feet.
SC Yeah.
SC For information, I'm getting counts on
the PMEC, if that helps your insight for the problem any.
SC Oh, that's funny. I don't think so, but
I'm not sure. It has its own high voltage power supply.
SC Hello, Houston. Did you copy?
CC Go ahead; say it again.
SC I say on the X-ray SPECT PMEC, I'm getting
counts on it, for what that's worth. You'll be tracking down
your indications of main power still being on.
SC I'm looking at the ground.
CC Okay, fine. Thank you very much. Hey,
PJ. We're recommending - Which pump are you on? Whichever
one you're on, we'd recommend you to try to switch to the
other one. See if that gives you any cooling.
SC Okay. I'm on the primary. I'll go
back and try the secondary. I don't have any confidence
that either pump is running.
CC Okay. We'd like you to check the circuit
breakers. And stand by; I believe it's panel 202.
SC We've already found them, Rusty. They're
all closed.
CC Okay. Understand. All the breakers
are closed.
SC Yeah. All the SUS pump breakers are
closed.
SC Hey, this is the story of this bird.
Half of every piece of normal gear doesn't run right.
SC A pretty wonderful machine for all that.
SC You betcha.
SC That's what we're here to find out.
CC Okay, Pete, you've got about 3-1/2 minutes
here of night remaining. And at that point, you should be able
to press on, and Paul can turn out the other docking light
to save us that before sunrise.
SC Can probably turn it out now.
SC Care to (garble), Joe?

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Time: 11:00 CDT, 14:16:00 GMT

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SC No, no, I like it out. It'll make the
sunrise better.

SC Look at that sky.

CC And, Paul, if you're able, since you're
not getting any cooling, we would like to have you turn OFF
the PRIMARY COOLANT LOOP again. And I think we'd like to have
you go back to command.

SC You want me to go OFF and then command.
Is that right?

CC That's affirmative.

SC Okay. Let me give it a couple of minutes
now.

SC Hi, Joe. Here comes the sunrise.

SC That's the blackest black in the universe
up there.

SC Huh?

CC Okay. We'd also like to check to make
sure that you've got your visors down for that.

SC Got the visors down, man. We're ready.

SC Standing in the path, I'm going to see
sunrise upside down.

SC I can see it right side up on my end.

CC Okay. We've got about a minute to LOS
here at Guam. And we'll be picking up Goldstone, and we
wanted the TV ready at 27.

SC I can see the limb breaking in a big, big
crescent, about 180 degrees.

SC That's terrific, isn't it?

SC That star's blinking through the bottom
of it, like you've noticed before.

CC And for your - -

END OF TAPE

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Time: 11:11 CDT, 14:16:11 GMT
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CC And for your information, we will have
the pads going up as soon as we get Goldstone AOS at 16:27.
SC Roger that. Okay. Thank you.
SC Still there, Rusty?
CC Yes, we are.
SC S082 went in there just out of sight.
It's so much simpler than the water tank, it's unbelievable.
CC Ah, roger. That's good news.
SC Oh, it's just old fascination.
It works just fine. And I will probably configure it for our
next EVA before I come back in.

CC Okay, that sounds swinging.
SC I'm going to check out all the booms
and everything else. I figured you guys might have something
else up your sleeve; so I'm trying to stay in front of you.
CC Sometimes that's hard to go since we
don't know which direction we're moving.
SC That's all right. We're covering that
(garble) (static)

PAO This is Skylab Control; 16 hours 12 min-
utes Greenwich mean time. We've had loss of signal at Guam.
Sunrise just breaking at LOS - Pete Conrad reporting he was
seeing the sunrise upside down. Crew decided that they
would wait until daylight before moving out to the base of
the discone antenna. They could not see the pin at the base
to which Joe Kerwin was to attach his chest tether. Paul Weitz
shined his flashlight out the window in the multiple docking
adapter toward the base of the antenna, but there wasn't quite
enough light. When Kerwin reaches that point, Conrad will
hand him the cable cutter pole and then move up to that area
to join him. A few feet behind the antenna base is a
cross member between two - two of the trusses for the ATM,
which forms an A-frame. The pole will be tethered to that
area, and then Joe Kerwin will attempt to attach the jaws of
the cutter to the aluminum strap that we believe is holding
the solar array wing down and keeping it from deploying.
This first bite into the strap is merely to secure the pole
so that it may act as a hand rail for Pete Conrad to work his
way, hand over hand, down to that area, deploying the BET, the
tether rope, as he goes. He will attach a tether on his wrist
to the pole before he goes down to that area. When he reaches
the beam, he will hook the BET into a vent module on the beam.
At that end of the BET is a halter-like device with two
hooks on the end. He will hook both those hooks into the
vent module, and Joe Kerwin will take up the slack. Then Con-
rad will transfer his tether over to the BET and essentially
get up on top of the beam, while he positions the cutters in

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Time: 11:11 CDT, 14:16:11 GMT
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the best location for attempting to cut the aluminum strap, which is, we estimate, about 1-1/2 by 3/4 inches, and it is 63-thousandths of an inch thick, made of 7075 aluminum. Joe Kerwin will pull a rope from his position, and he may be hanging over the edge of the workshop - hanging by his toes, essentially, to get himself in a better position to apply some pressure on the rope, attempt to cut the strap. If the cutters do not work, Pete Conrad has with him a pry bar which he will try next to pry the strap loose, and he has a surgical bone saw with which to attempt to cut the strap, if the pry bar does not work. All three of these methods of freeing the strap have worked in the water immersion facility at the Marshall Space Flight Center. Once the strap is free, Conrad will put the beam extension tether over his shoulder while he's in a squatting position, back just inboard from the hinge of the wing, and then stand up. This is expected to deploy the wing. There - the automatic device to employ the wing we can call the damping actuator. It contains a spring, but it also contains oil. This oil is thought to be frozen, and therefore it's not expected that the automatic opening actuator will work. But it's believed that Conrad can apply enough pressure against the BET to break the bracket that's holding the actuator, thereby freeing the wing. He will move back toward the discone antenna area as the wing erects. We're 7-1/2 minutes away from acquisition at Goldstone. We have 51 minutes of daylight remaining. As you noted on the Guam pass, Pete Conrad was able to see the Island of Guam as they passed over, still in darkness. He gave them a friendly greeting of "Hi there" and then acted the role of Guam to return his greeting. We'll come back up a couple of minutes prior to acquisition at Goldstone. At 16 hours 20 minutes GMT, this is Skylab Control.

END OF TAPE

SL-II MC-642/1

Time: 11:25 CDT, 14:16:25 GMT

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PAO This is Skylab Control; 16 hours 25 minutes Greenwich mean time. We're 2 minutes away from acquisition at Goldstone. We will have television capability during this stateside pass. It will be Paul Weitz's option whether we get television. But we are ready to receive. Got about 45 minutes of daylight remaining in this pass. We'll stand by for first acquisition with the crew.

SC Yeah, it's sticking out, isn't it?

SC Isn't it though.

SC I can see it, too.

SC Let me kind of stand back here and see if I can work that way. Yes, there is clearance. That's the way I remembered it.

SC Yeah, darn, there's a lot of solar panels further down though, isn't there?

SC Oh, yeah.

SC (Garble) solar panel further down though, isn't there?

SC Oh, yeah.

SC You're in good shape there, Joe. Can you pull your feet --

PAO Television coming in now.

SC No, I don't want to pull my feet down. I'm all right.

SC Okay.

CC Skylab, Houston. We've got you for about 17 minutes coming over the States.

SC Now let me tell him what's going on, damn it.

SC Let me direct you, Joe. You can pull the pole back.

SC I can't pull it back some. I can't get over, you know.

SC We're out there.

SC Wait a minute.

SC Hey, that's a beautiful place to cut it. Right? See?

SC Yes.

SC Yeah, you're in the right area if you could get through those wires. Just take your time. Okay, Houston. We're out there. We have the debris in sight. There looks like enough room to get the cutter, and I'm trying to help Joe stabilize. And, Joe, you're way past it, it looks like.

SC I don't think I am.

SC Yes, you are. Come - come towards me.

SC I'm not past it.

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Time: 11:25 CDT, 14:16:25 GMT

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SC Now you've got - if you're going to hook it down there, you are.

SC Well, you know what I'm going to have to do that. Wait a minute. I might get enough out of it there. See, I've got it tethered, and that prevents me from pulling it back too damn far.

SC All right, you need to move the tether up.

SC Wait a minute.

SC You're still in front of it. I mean it's down minus-X.

SC Okay. Yeah, you're right.

SC I'll tell you when you're on it.

SC Houston, I'm going to try to get to the command module with the TV and - so you can get a look at the sail.

SC All right. Now wait --

CC We've got a way to get you some comm here, PJ. I mean pulling.

SC Joe?

SC Yeah?

SC You're battling the tether. (Garble)

SC I know I am. I'm going to (garble).

SC Let's come back in here. Let's come back in here. Just take it easy, and let me help you.

SC You're going to have to untether it, Pete.

SC Now that's my - tethered around my feet. Right?

SC Yeah.

SC I got to turn around.

SC Okay, now it's loose.

SC Where's my tether?

SC In front.

SC It's all right. It goes in front of your feet, but it goes straight back into the airlock. You're all right.

SC Yeah. Let me see if I can help you. Now. You should just - ease it over towards me. All right, wait.

SC (Garble)

SC No, the trouble is, I have to get it a different way. All right. I got it off. It's the sole thing holding the pole. Now just send it back towards me. Can you do that?

SC What, the pole?

SC Yes.

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Time: 11:25 CDI, 14:16:25 GMT

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SC No, I don't want to do that, I don't think.
Let's - Why don't you help me (garble) I have it on.
SC Joe, you've got to have it tethered, and
I'll let it slide out - It can slide out.
SC It's not tethered to what?
SC The pole. Let me get it in front of the --
SC What are you going to tether the pole to?
Oh, yourself, huh?
SC No. Now you --
SC Oh, the BET.
SC I just - no, damn it. I'll tell you what
I want to do. Back --
SC What is that tether you've got on there?
SC That's the pole tether. Now, you should
just stay with me a minute. Come back with the pole. I'll
tell you what we're going to do. We're going to get in the
right configuration --
SC We were in the right configuration --
SC No, we weren't. We were too short. You
couldn't slide your pole back. See? Now the tether will go
as far up the pole as you want it to. Did you retether it?
You follow me?
SC Whew!
SC I'll tether it for you. Hold still. If
I can (garble). Can you hold the pole?
SC I've got the pole.
SC Okay. I'm going to hold on to the pole
and translate to the tether point. There.
SC Okay.
SC Be sure and lock it. It'll come apart in
a second and then out.
SC Okay, it's locked. Let me get back to
my - I need to get back. Push me back just so I can get (garble).
SC Wait a minute.
SC I'm on my way (garble).
SC Okay.
SC You got it. Now your assistance. Okay?
SC Okay. That might even help, if I reluctantly
have to confess.
SC All right. Now just turn the pole nice
and (garble) and can let her (garble).
SC Until you're holding that on there, it's
going to be a chore. God dang it. Wait a minute.
SC See the quarter of the sail, Houston?
CC Say again, PJ.

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Time: 11:25 CDT, 14:16:25 GMT

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SC Can you see the quarter of the sail -
the orange quarter?
CC Stand by. I think we can psyche it out.
We do have a good picture.
SC All right, let me come back a little.
Now we can go forward.
SC Oh, that's it. Now come up.
PAO This picture is through the command module
window.
SC You tie it.
CC Okay, we've got it, PJ.
SC Could you hold one foot -
SC Yeah, you try it.
SC You that stable? If you could hold one
foot, man, I could use both hands on this.
SC Wait.
SC Oh.
SC Let me hang on (garble) How's that?
SC That's pretty good. Now to get up under
the rubble there.
SC Wait a minute.
SC Make this come forward.
SC Tell me when you've got enough of the
sail, Houston. I'll go back into the MDA.
CC We've got enough. Thank you very much.
SC Okay.
SC Tired?
SC I'm not tired. I'm a little frustrated
because I have no place to secure myself here.
SC Houston, I've got a suggestion.
CC Okay, we're reading you. Understand
you're having trouble in maintaining your position in order
to hook it on the strap. Can you give us a little more detail?
We're hearing a lot of the conversation but we haven't got a
very good picture of it.
SC Well, let's just cool it until we get
done. We're working the problem. Bunch of wires in the
way. God, that prevented you from getting it that time.
SC Un huh.
SC Trying to let it go, you know.
SC That's it. You've got it right there.
Pull back.
SC Can you by any possible means --
SC Oh, it came off.
SC I know it, but can you get hold of that
gray rope?
SC Gray rope?
SC The rope we marked.

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Time: 11:25 CDT, 14:16:25 GMT

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SC Yes.

SC Wait a minute.

SC I'm going to have to - Well, unfortunately, I've got myself tethered to the BET, to the deal right at the moment. Take a rest. Okay. I've got the - -

SC You're pulling me around.

SC I've got the pole.

SC Take it easy.

SC Okay, now. The thing is - listen, help in unhooking that rope back there.

SC Hey, how about - could you -

SC Unhook it from the cleat. I want you in a position to pull on the right rope while I'm holding it in place. Cause I can't do both. Okay?

SC Just one second.

SC That would be the deal.

SC Okay, I've got the right rope.

SC That's the one.

CC Joe, just for your information, we operated on the opposite side of the discone from the one you're operating on. That is, we operated from the right hand side of the discone. That may help you if you need more pole.

SC It's not a question of - pole -

SC It's not a question - I've got more than enough pole, Rusty. It's a question of keeping my feet from flying away so that I can not only reach the thing, but hold it there.

CC Okay, the only thing I can say that in the water tank we stood up almost parallel with the discone, with our feet down by the base and used the discone as a handhold. That helped us. You might want to try that.

SC Yeah, I'm doing that. It's not a handhold I need, Rusty. It's a foothold.

CC Right. We put our feet right at the base of the discone - -

SC That's where they are, Rusty.

CC Okay.

SC It's easy to get it in touch, but it's impossible to get it to stay there.

SC Not impossible, just takes a little longer.

CC That may (garble) speed it up.

SC See what I'm doing, I'm trying to - -

SC - holding on to this rope right at the moment.

SC No, no, I don't think so. Now. Whoops.

SC I'm giving you as much as I can give you.

SC Yeah.

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Time: 11:25 CDT, 14:16:25 GMT
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SC All right. You're in good shape.
SC None of it, just a little bit come back.
SC I think I'm on it.
SC No. I can tell you're in front of it;
you're still in front of it.
SC You've got to come towards me. Now you're
behind it at an angle, see.
SC Yeah, pull.
SC Now you're in front of it.
SC Now you're behind it, still behind it.
Got an excellent place to work, but you're still behind it.
If you could just come over it right there, behind it - you're in
front of it again. (Garble).
SC You're still in front of it, yeah. Got
to go back behind it again.
SC How's that?
SC Now pull towards me. No, you're not on
it. Are you?
SC No.
SC I'll tell you, when you think you're on,
pull towards me, and that ought to pull it right to the base.
SC Uh, uh.
SC No, you're not on it yet.
SC It's pretty thick, Rusty.
SC That's the trouble. That's the trouble
right there.
CC Okay. Understand that. Is there any
other debris you can grab out there that's not as thick?
SC That's the very thing he's working on.
SC That's the trouble. The damn jaws aren't
far enough open.
SC Try closing it, Rusty. Right now.
SC Wait a minute. Hold it. That do it?
SC No. Mostly because it pulled off when
we were closing it.
SC Okay.
CC The only other thing we can think of,
Joe, is to make sure that they're fully opened before you try
to get it over. That'll give you the maximum chance.
SC Thank you. We're going to take it back
right now and reset it. Well, we may not have to take it
back. Let me pull on it and see if that'll reset.
SC You've got a piece of wire that time anyhow.
You were on it.
SC Yeah, I know it.
SC Oh, yeah. I sure am.
SC Let's - I wonder if we could - can we
tell if it's fully open?

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Time: 11:25 CDT, 14:16:25 GMT
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SC It looks fully open.
SC Okay.
SC It sure does. Now. I've still got the
pull rope.
SC Okay.
SC Okay, let's go back to work.
SC Yeah, (garble) you to it.
SC Oh. Oh. Okay. Mostly because I'm in
position, and I don't want to - I'll tell you, I'll try it
(garble) now. Let me see -
CC You know the best chance you have is as
close to the base of the SAS panel. That's where it's the
narrowest.
SC Is that right?
SC But there's a wire bundle there. I got
the pole.
SC Okay.
SC Am I all right now?
SC Yeah.
SC The pole is over (garble).
SC Okay.
SC (garble) they could be we're doing it.
CC Okay, Pete, just for your information,
you still got plenty of time here til sunset. You've got
29 minutes left.
SC Yeah, we're not sweating anything. I
tell you, Rusty, the strap is oriented in the worst - joy - wait
a minute -
SC Want to get the (garble) again.
SC Okay, the strap happens to be oriented
in such a manner - even though it's not wide, it's presenting
its widest side to the cutters.
SC Okay.
SC I can't - -

END OF TAPE

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Time: 11:42 CDT, 14:16:42 GMT
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SC Well, I can't see, Joe, although I'll try, now that you changed positions.

SC Wait a minute. If I can bear against it, do you think I'd be all right?

SC I'm not in too bad a shape to steer this pole myself. Keep - Here, now I got a hand on it, son of a gun, myself, to steady it. How's that? I can steady it --

SC Let's put it in.

SC That's right. First, you do the fore aft and let me do the left right. Got to steer me, because I can't see.

SC Yeah, wait a minute. I got a little torque on my body that's holding that from coming the way it wants to.

SC Well, that may be me.

SC No, it isn't you.

SC I tell you, Rusty, it looks like if we ever get it on the strap, we got it made. Because I can see the rest of the meteorite panel, and most of it's underneath and looks relatively clear.

CC Okay. If you can hook on anything at all out there --

SC I understand --

SC Yeah, yeah, it's not oriented to do that, and we understand.

CC Okay, and for your information, we're about 30 seconds from LOS. And you got 26-1/2 minutes of day left. And we're going to pick you up at Vanguard at 54; that'll be after dark.

SC Where you going, Joe?

SC I can't stabilize myself on this side. I just can't do it.

SC Yeah. Rest. I'll tell you what, Joe. Where's your umbilical with respect to mine? I see it.

SC (Garble) Let me try straddling it like this.

SC Wait. We're getting umbilicals and everything else all twisted up here.

SC Wait a minute; this may do it, right here.

SC Okay. You want the pole?

SC I got the pole.

SC Okay. You want me to still pull? With full strength?

SC Uh huh.

SC All right, let me get in a position where I can do that. I don't know.

SL-II MC-643/2

Time: 11:42 CDT, 14:16:42 GMT

6/7/73

PAO This is Skylab Control; 16 hours 44 minutes Greenwich mean time. We've had LOS at the Merritt Island Station. We will acquire again at the Vanguard Tracking Ship, off the southeastern coast of South America, in about 9 minutes. Joe Kerwin having extreme difficulty trying to attach the jaws of the cutter to the strap. Pete Conrad reporting there is no other debris in the area to which they can attach it, to allow him to get down into the area and assist in getting the cutter on the strap. They were still continuing to try as we had LOS. Pretty fair television out the MDA window during this pass; also a shot out the command module window, in which a corner of the orange sail could be seen. Television of the EVA crewmen showed Joe Kerwin with his legs flailing as he attempted to get the cutter on the strap. Apparently, one of his biggest difficulties is he does not have good foot restraints. You could see Pete Conrad holding the A-frame; mushroom end of the cutter pole was visible. And that bag that was tethered to the A-frame, floating, contains the beam erection tether. During this pass - during this rather strenuous activity, the flight surgeon reports that Pete Conrad's heart rates ranged between 100 and 110; Joe Kerwin, 145 to 150. We'll come back up a few minutes prior to AOS at Vanguard; that's about 7 minutes away. At 16 hours 47 minutes GMT, this is Skylab Control.

END OF TAPE

SL-II MC644/1

Time: 11:52 CDT, 14:16:52 GMT
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PAO This is Skylab Control; 16 hours 52 minutes Greenwich mean time. Two minutes away from the Vanguard. Skylab just barely skirting the edge of Vanguard's range during this pass, about a 5 minute pass, but at a very low elevation angle. The maximum elevation 2.3 degrees. We'll stand by for first words from the crew and see how they're making out.

PAO Seventeen minutes of daylight remaining. We're 1 hour 30 minutes since hatch opening time.

SC (garble) There. Now.

SC Now, where are you?

SC - - and what I've done.

SC Huh?

SC Okay, well our umbilicals are free of each other.

SC (garble). I want you to get back.

SC If I go out, where's my umbilical with respect to yours?

SC Inside of it, right where it ought to be.

SC All right, so I can go under, right?

SC Yes, sir.

SC Right now?

SC Yes, Paul.

CC Skylab, Houston, we've got you through Vanguard here. Sounds like you got it hooked on somewhere.

SC Yes, we do and now all we're trying to do is straighten out the umbilical mess before I go out.

CC Great.

SC I don't believe we'll have to move the cutter. we got it in a dead center spot. All right, you ready?

SC Yep.

SC All right, now. I've got to go - I got to get oriented on this pole right. I got to go - -

SC Now, you want to go with your feet out that way, don't you?

SC Yes. I want you to grab a hold of the pole now to stabilize it.

SC All right.

SC Got it?

SC On my way. Bye.

SC Good by.

CC And Paul, the messages are in the teleprinter if you want to give them guidance.

SC Okay, you may have to feed some of my umbilical out. You may have to tip my - -

SC Oh, boy.

SC Thanks, Rusty.

SC Wait a minute. However you fastened this rope it sure is in there tight.

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Time: 11:52 CDT, 14:16:52 GMT

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SC It's all right, just let it come out.
SC Okay, it's coming out now.
SC Let it come over the end first. Let
it come over the end; don't pull it all loose, over the
end - That's it, much room. That a boy. Bye.
SC Take your time, I want to feed this rope
behind you.
SC Hey, and are you -
SC I'm going to tighten the nuts on these
poles on the way up. Every single -
SC Are they coming loose again already?
SC Every single one of them has backed off.
SC Isn't that incredible?
SC Yeah.
SC Hey, Pete.
SC Yeah.
SC You're starting out with your umbilical
under the pole.
SC All right.
SC (garble)
SC Stay where you are, Pete.
SC I got it.
SC Here. Here. Stay where you are.
SC Joe.
SC (garble) that tether under your umbilical.
SC God damn.
SC Say again.
SC Look, I wish you hadn't pulled that rope
out of the bag. Holy Christmas.
SC Listen, I gave it one tug and it all came.
SC Well.
SC Okay.
SC Okay. Oh, I'll have to untether.
SC (garble)
SC - - tether.
SC No.
SC Okay.
SC Now, which is which?
SC This is the pole. It's the inside - -
SC All right.
SC That's the one.
SC But this one comes with no practice, man.
Now let it - -
SC - - that's right.
SC Let it come out - got to come out of the whole
dam thing. Hope it goes under.
SC It's got to.

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Time: 11:52 CDT, 14:16:52 GMT
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SC Huh?
SC It must go under there.
SC All right.
SC Or we never could have gotten in
that box in the first place. Right.
SC Yes. All right now, am I free?
SC All right. Wait a minute. Wait a minute.
SC It's under the pole.
SC Yes. Okay, now go.
SC All right, bye.
SC Hello, Houston, you there?
SC Yes, sir. We got you for another 2-1/2
minutes.
SC Where is - where is the BET, Joe?
SC It's caught on - ho, ho, that's what
I was afraid of. It's all right.
SC Oh, that's the whole BET there, isn't it?
SC All right.
SC Okay.
SC Stay put.
CC Okay, we got you for two minutes, and then
we're going to have about an hour dropout before we pick
you up again at Goldstone. That'll be at 18:03.
SC Okay.
CC And you have about 13 minutes of daylight
left. And no big sweat.
SC Understand. Yeah, I'm watching it on
the pass - on the day/night thing, Rusty.
CC Okay, fine.
CC And Paul, if you want cooling, we recommend
you just disconnect from the food (garble) as your water (garble)
SC Joe.
SC Yes.
SC Umbilical is holding me up.
SC It is, huh?
SC I don't have any umbilical.
SC All right.
SC I got it. Never mind.
SC It won't reach, Rusty. The umbilical is
flat not long enough to reach.
CC Okay, we're saying disconnect your comm
from the fuse box (garble)
SC No, it's still coming.
SC At the end of it already.
SC Good music.
SC Darn it.
CC Which side of the discone have you got
your umbilical?

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Time: 11:52 CDT, 14:16:52 GMT
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SC On the right side facing aft the side
closest to the - to the SAS panel

CC Okay, your umbilical is long enough, it's
probably snagging somewhere. Joe, you might want to take
a look at that back down there - -

SC - - I think it's all right, Rusty. He's
down there.

CC Okay.

SC It hung up, but it's all right.

CC Great, thank you.

SC I just cut it with my trusty boy scout
knife.

CC We're going to disregard that one.

SC Yeah, please do.

SC Gee, are you going to attach the other thing

SC first. Well, the trouble is - I don't
know how I did it but I got the BET thing in the wrong place.
I've got to get this BET thing under my umbilical.

SC Under your umbilical.

SC Hell, yes.

SC Oh, all right. I guess I better come out
and help you.

SC No, don't you move. Two of us out here
is plenty.

PAO This is Skylab Control at 17 hours Greenwich
mean time. We've had loss of signal at Vanguard. We won't
acquire again until we reach Goldstone 1 hour 3 minutes from
this time. We copied the time that Pete Conrad started down
the pole. Said his third goodbye after two false starts. At
16 hours 57 minutes. And as we ended the pass Joe Kerwin
indicated that Conrad was down at the cutter end, and Conrad
then reported the - the BET, the beam extension tether, was
not in the right place. He had to pass it under his umbilical
before he could start attaching it. 8 hours of -
sorry, 8 minutes 45 seconds of daylight remaining. One hour
2 minutes to the next station, which will be Goldstone. And
this EVA has been underway 1 hour 38 minutes 37 seconds. That's
since hatch opening. At 17 hours 2 minutes GMT, this is
Skylab Control.

END OF TAPE

SL-II MC-645/1

Time: 12:31 CDT, 14:17:31 GMT

6/7/73

PAO This is Skylab Control; 17 hours 31 minutes Greenwich mean time. Skylab is on its 347th revolution, at this time passing just beyond range of the Carnarvon, Australia, Station. We're 32 minutes away from acquiring the spacecraft at the next tracking station, which will be Goldstone. The crew has 14 minutes of darkness remaining in this revolution. And it's been 2 hours 8 minutes since the hatch was opened for this EVA. At 17 hours 32 minutes GMT, this is Skylab Control.

END OF TAPE

SL-II MC-646/1

Time: 12:48 CDT, 14:17:48 GMT

6/7/73

PAO This is Skylab Control at 17 hours 48 minutes Greenwich mean time. We're about 15 minutes away from acquisition at Goldstone. Skylab out over the Pacific Ocean now, moving up onto its northern most reaches at 50 degrees north latitude. It's been 2 hours and 26 minutes since the hatch has been opened. Crew is in daylight now. 54 minutes of daylight remaining. We don't know what has been transpiring, naturally, and won't know until we get to Goldstone. During the height of the activity in an attempt to secure the cable cutters, Joe Kerwin's heart rate did reach a high of 150. And the flight surgeons say his metabolic work load peaked at 2000 British thermal units. They would not like to see a sustained period at those rates or at those workloads. However they believe he has had sufficient time to rest, particularly during the darkness, the night side of this pass. We're 13 minutes away from AOS now. We'll come back up a couple of minutes prior to Goldstone acquisition. At 17 hours 50 minutes GMT this is Skylab Control.

END OF TAPE

SL-II MC-647/1

Time: 13:01 CDT, 14:18:01 GMT
6/7/73

PAO This is Skylab Control; 18 hours 1 minute Greenwich mean time. Two minutes away from Goldstone acquisition. Skylab will pass almost directly over the Goldstone Tracking Station on this revolution. And then pass directly into Texas acquisition before going LOS and going down across the west Coast of South America. This, for all intence and purposes, is the last stateside pass of the day. One more acquisition at Goldstone, but that's very shprt. About 3-1/2 minutes. We're 2 hours 39 minutes since hatch opening. And 41 minutes of daylight remains for the crew. We'll stand by for first transmission and we are configuring on the ground to receive television, with the crew ascending.

SC You are now free and clear.

SC They're all accordian except for the (garble) edge. You see it?

SPT Yep.

SPT They're all accordian about evenly, too.

CDR Well, the two outboard ones are further out to the very inboard ones.

SPT Let's tell Houston to fix our gyro before we go.

CDR Yeah. Talking about stuff.

SCHWEICKART Hello, there we're listening to you. You're coming in loud and clear. And we see SAS aups.

CDR Yeah. Well let's take care of our C-gyro, we ain't got any of them.

SCHWEICKART Okay. We're looking at it.

CDR All right. I'll tell you where we are. We've got the wing out and locked, the outboard panel and the middle panel are about out the same amount, and the third one is not quite. Now, Joe, I think before you come in, you better take a look up there and make sure that third one is clear and all the debris.

SPT That's really bugging me.

CDR All right. I can do that myself, right here, if I can get there from here.

SCHWEICKART Okay, Pete. We don't understand, that the outboard two were almost all the out the last time when you looked - -

CDR No, no, no, no, no, no. They are further out than the inboard ones.

SPT But none of them are out very far. All of them are accordian evenly and the angles between them, look to me, like about 20 degrees, Rusty. So they've got a good long way to go.

SCHWEICKART Okay. Are they still moving? And how long ago did you get them out?

SPT Set them out about 5 or 8 minutes ago. And they're not still moving.

CDR Doesn't look to me like they're moving at all. If they are, it's really super slow.

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Time: 13:01 CDT, 14:18:01 GMT
6/7/73

SPT I don't think they're moving. No doubt in my mind. They're staying right where they are, for the moment. You guys are going to bait them out, right?

SCHWEICKART That's the plan.

SPT Okay. I think you're going to have to that, is what I'm saying.

CDR I'm trying to - -

SPT Go on down to the SAS, Pete. And let's get going.

CDR No, I want - Okay.

CDR Excuse me.

SC (Laughter).

SCHWEICKART Okay. Pete, can you tell us where you are? Are you still out near the SAS wing? What's your status there?

CDR I'm out (garble) headed for the SAS. Right this instant, I'm almost - I'm in the SAS. And I'm getting ready to pull in all my umbilical - Joe, can you see my umbilical?

SPT Just a second. I was doing a 360 to get mine in (garble) there.

CDR Yeah. Well I'm trying to - let me get in here with my umbilical in the right place.

SPT I think I want to do it that way, right?

SC (Garble).

SCHWEICKART Joe, when you get a chance, give us a status of the BET, where is it and how tight have you got it, et cetera?

SPT The BET is between the panel and (garble) and its rigged, Rusty. And it's as tight as I can get it, which isn't terribly tight, because of the characteristics of the clete.

SCHWEICKART Okay. We - -

SPT It's also not terribly secure. Because I don't have anything to secure it with. But it'll stay there as long as nothing hits it, I guess.

SCHWEICKART Okay. Would you describe it as having no slack in it, but not very much tension?

SPT That's correct.

SCHWEICKART Okay. That's exactly what we wanted. Thank you.

SPT (Garble) all the time.

SC Hey, Rusty. Do you think we've got another condensate tank Delta-P light. I'm going to go through the dump procedures again.

SCHWEICKART Okay. And we would like for you to leave it in the dump procedure, that is. We'd like you to leave it in a vacuum - -

SPT Whoops.

SL-11 MC-647/3

Time: 13:01 CDT, 14:18:01 GMT
6/7/77

SCHWEICKART in a vacuum on that side.
SPT That's how it was when the light came on.
CC Okay. Thank you.
CDR Yeah. Joe, hold it just a minute.
SPT Yeah.
CDR While I get these. I don't know whose
umbilica is whose, here.
SPT I'm trying to get down and help you.
And I'm hung, by the fact that I'm still tethered. (Laughter).
to the pin.
CDR Okay.
SPT So I think I'd like to get this - -
CDR All right, now I'm going.
SPT Like to get this pole going in some
direction or other.
CDR All right. Now I've got mine all down.
Here, and putting it away. Okay. (garble) that. Now, where
is it?
SPT What?
CDR Oh, I'm just looking for my umbilical.
SPT Oh. Easier to track another guys umbilical
than it is your own, you know it.
CDR Yeah. But unfortunately I've got your's
down here, too. And I don't know why.
SPT Just come along with.
CDR Huh?
SC It wants to come along with you when you
went down.
CDR It's hooked in me somehow, and beind my
feet and you, or something.
CDR Oh, no it isn't. Wait a minute. I see
it.
CDR All right, that's your's. Now all I
need to do is come over my head with it. I can't believe it.
We've got em in, without being tangled.
SC (Laughter).
SPT It's due to a 100 percent skill, and
zero percent luck, right.
CDR Yeah. Okay.
CDR Now. I'm ready for you. All right -
SPT I'm a coming.
CDR Hand me the pole.
SPT I'll get it a more favorable location
momentarily. I'm trying to manage - -
CDR You're flaying around with it.
SPT I know it.
SCHWEICKART Joe, this is Houston. If you've got a
look at it, was the inboard panel clear of debris? Or is
it hanging up on it?
CDR Yes, yes.
SCHWEICKART Okay. Thank you.

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Time: 13:01 CDT, 14:18:01 GMT

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CDR Best I could tell.
SPT Yeah, it's been that way.
CDR Always been that way.
SCHWEICKART Say again.
CDR Oh, we're talking to ourselves, Houston.
SPT Wait a minute. I need to stop
right here, untether from the pin and get myself toward it.
CDR All right, take your time.
SPT Yep.
CDR We got the main job done.
SCHWEICKART And Joe, if you get a chance before you
leave the area, if you'll look at the connector on the top
of the AUX tunnels and see if there is any obvious debris
around it.
CDR No, it's clean -
SPT (Garbie) onconnector.
CDR It's clean.
SPT On top of the AUX tunnel, I cannot see
from where I am right here.
CDR There isn't anything out there but that
old piece of meteoroid shield that was underneath the wing.
SPT That's sure is what it looks like.
CDR Ed, you got - -
SC From the angle I can get on it, it's
completely clean, your right, Pete.
CDR You guys called it pretty well. It's -
When I cut the strap it was under tension and it went about
2 feet. Then it stopped, then I had to break the ah -
SPT Oh, look at that.
CDR Whatchacallit. Look at what?
SPT Broke my foolish 6 foot tether here. More of
a henderance than a help, all of a sudden. As a matter of
fact, it you'lli, well - I'd like to stuff it away some place.
Not quite sure what to do with it.
GDE What you doin, I'm holding on to the pole.
SPT You're holding on to it?
CDR Yes.
SPT Oh. Is it in a good position for you?
CDR Yes. Want me to get rid of it for you?
SPT Well, let's bring it on down.
CDR Okay. Keep coming.
SPT I have to roll it here.
CDR Okay.
SC To get the blades in the right configura-
tion again, to get by this pole.
CDR Yep.
SPT Okay. Coming?
CDR It's coming.

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Time: 13:01 CDT, 14:18:01 GMT
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SPT Keep her coming.
SPT You've got it now. It's out of my hands.
CDR I got it.
SCHWEICKART Okay. EV-1 and 2. We're seeing a fairly
high Delta-T on the gas temperatures going through. We'd
like you to, if you can, to go ahead and increase your water
cooling.
SPT Increase or decrease?
SCHWEICKART Well, we'd like to see you taking more
out with the water, and less out with the gas.
SPT Okay. Fine. I'll tell you what. I
powered down for the night, Rusty. And just haven't gotten
around to powering up again.
SCHWEICKART Okay. Fine, Joe.
SPT I just pushed it up.
CDR I felt rather comfortable, myself.
SPT And I'm getting cooling and it feels
very nice.
SPT That's good. They obviously commanded it
back on. Took care of the problem for us.
CDR Okay. The pole is tethered and you're
clear of ah - -
SPT All right. I am coming back.
CDR All right. Let me change your umbilical.
Wait, wait, wait, wait.
SPT All right, I'm waiting. I have to get hold
of this hand rail.
CDR Your thing is hung up, up there.
SPT No it's not.
CDR Okay. I got it.
SPT It's under my foot, however, wait a minute.
CDR Let me get it here. You can stick it in here.
SPT Now, where's your's.
CDR Mine's in back. It says back in the back.
SPT You want me to go in and stow your's
right now, before we do anything else? That might not be a bad idea,
Pete. We won't need it again.
CDR All right.
SPT Get it out of our way.
SPT Let me make it a little (garble) while you're
doing that.
SPT There we go.
CDR Watch the tool. Watch the tool.
CDR All right. That a boy. Now you're all
right. Hold it, hold it. Darn tools's in the way. Let me
get it out of your way. I don't want you to cut yourself on
it. Okay. Now. Go on in.
SPT As a matter of fact I'll come in here
stow your umbilical, and then stow that fool.
CDR Then I'll take it apart.

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Time: 13:01 CDT, 14:18:01
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SPT Yeah, we'll take it apart and put it
away.
CDR (garble) B2A
SPT We could probably do that at night.
CDR No sweat.
SPT Now - -
CDR It's working.
SPT - - the umbilical.
CDR You've got your hand on it.
SPT Holy Mackerel, it's all the way out.
Clean out of the sphere.
CDR Okay. Are you ready?
SPT Before you go, let's undo it here.
CDR All right.
SPT (garble) with it coming so hard.
CDR Just take your time.
SPT Okay. That's the first time I've ever
seen one clean out of the sphere.
CDR Ah, Houston. Are you still there?
SCHWEICKART Yes, sir. We are. We've got the
C-gyros back on and we're going back to SI.
SPT Rusty, we did that job with about 3 feet
of umbilical to spare, and Pete.
SCHWEICKART Okay. And I understand you're not gone
out to the ATM yet.
CDR No.
SPT That's affirm.
CDR No, we just spent the night out there on
the solar panel.
SCHWEICKART Okay, before you go out there we would
like to ask Paul, to turn off the image disector and turn off
the photo multiplier on 54, to prevent any corona problems
when you're putting out gas out that end.
CDR You guy will make changes right to the
bloody end. (Laughter).
CC Right.
CDR While you have a moment, I an't guarantee
you that that third panel does not have solar shield under-
neath it, because I don't know where the solar shield went
to. You were correct. It did have force in it. From the number
one torsion rods. And it's possible it could have flapped
out there and hung up the inboard solar panel.
SCHWEICKART Did Joe get a look down the side just before
he left the discone antenna?
SPT Definitely did, sir. I saw no hangups what
so ever. I saw nothing above the level of the meteoroid
shield.
CDR Okay.
SPT Hanging up that sail. It - that blanket
should come out.

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Time: 13:01 CDT, 14:18:01 GMT

6/7/73

CDR Okay. And I suspect that seeing the
(garble) right? Isn't that the coldest one?

SPT I don't know.

SCHWEICKART They were all about the same temperature,
Pete. But that may be a slightly colder. Okay, Pete,
just out of curiosity, did you cut through the strap or
pry it, or what did you do with it?

CDR Cut through it. And I'll tell you what -
Let me tell you what it was. It was where the meteoroid
shield had torn off of both sides of the angles, so that
we had two angles and a juggler with the bolts in it. We
had no flanges. Okay.

SCHWEICKART Okay. Understand. You had both flanges
until the 7075 angle.

SC No. - -

END OF TAPE

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VOX

CDR I'll tell you what - Let me tell you what it was. It - it was the meteoroid shield had torn off of both sides of the ankle, so that we had two ankles and the doubler with the bolts in it, with no flanges. Okay?

CC Okay, understand you have both flanges of the 7075 angle.

CDR No. Yeah, well, we had half of one flange, half of the other flange and the doubler in the middle with the bolt. And the bolt in fact - the long end in fact - there was one little lousy single bolt in the bitter end. It had driven far enough three - through to hold the strap. Everything else was free.

CC Okay, we got 1 minute to LOS here at Texas, and we'll be picking up Vanguard at 28, that's 10 minutes from now.

CDR You're down to - hold it, hold it. Don't go any further.

SC (garble)

SPT Ah, this is the most working EVA.

CDR (garble)

SPT ...atowing that darn umbilical.

CDR Rest while I take the pole apart.

SPT Okay.

CDR Okay. Have you got some place to strap all that junk?

SPT I've got one long strip that will have to do.

CDR Okay, now let's see. (garble)

CDR Going to pull the same stunt, I'll take it apart and put it in there. Okay?

SPT I'm going to digress myself with my 6 foot tether.

CDR Here comes the tool.

SPT Just a minute. I ain't ready for it.

CDR Say, why don't I take the the tool head off?

SPT Yeah, that's a good idea at this point, Rusty. I'd rather have it off.

CDR My name is Pete.

SPT (Laughter) Sure. I've really done it.

CDR What did you do?

SPT I called you Rusty.

PAO This Skylab Control, 18 hours 18 minutes Greenwich mean time. We've had loss of signal at Texas. Tracking ship Vanguard will acquire in about 9 minutes. The solar array wing is out, the bolt cutters successful in severing that aluminum strap. The three solar cell panels on the - on the wing not fully deployed, the - the inboard one less deployed than

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Time: 13:16 CDT, 14:18:16 GMM
6/7/73

the other two. The plan is to initiate a maneuver with the spacecraft - 45 degree pitch maneuver - to get that wing more into the Sun, warm it up, and it's believed that the panels will then deploy fully or at least more fully. The dampers on those panels are thought to be frozen because of the very low temperatures they've seen. EGIL saw amps coming from that wing as soon as he got data on this pass. We don't have a reading yet on how much power we're receiving. We'll try to get that as soon as we can. We'll come back up again just prior to the Vanguard pass. At 18 hours 20 minutes GMT, this is Skylab Control.

END OF TAPE

SL-II MC649/1

Time: 13:20 CDT, 14:18:25 GMT
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PAO This is Skylab Control; 18 hours 25 minutes Greenwich mean time. 2-1/2 minutes away from acquisition at Vanguard. When we had loss of signal at Texas the two EVA crewmen Conrad and Kerwin were back in that fixed airlock shroud area. They will disassemble the cutter pole and then Joe Kerwin will go up to the work station on the Sun side of the Apollo telescope mount to replace the magazine in the S082A experiment - extreme ultraviolet coronal spectroheliograph. This is the experiment that photographs the Sun in selected ultraviolet wavelengths. Had a problem with that; film appears to be hung up in the magazine at the present. And he will latch open the door to the S054 experiment, the X-ray spectrographic telescope experiment that takes X-ray photographs of the solar disk and 5 spectral bands. This door has presented a problem in the past so that it will be permanently latched open. We're slightly less than a minute away from acquisition. The crew opened the hatch 3 hours 4 minutes ago and they have 16 minutes daylight left. We'll stand by for this Vanguard pass.

SCHWEICKART Okay, Skylab. Houston here. We've got you for the next nine minutes and at your convenience we'd like a GO on the maneuver.

SPT Roger. You can go for the maneuver, and Rusty did you copy my description of the sail?

SCHWEICKART Negative, sir. We just picked you up right now, so go ahead.

SPT Yeah, let me repeat that.

PLT It's on B channel, Joe. It's recorded so they can get it later.

SPT All right. Let's press on then. Good.

CDR Coming out to you right now old Buddy.

SPT Stop it before it gets there because I'm involved in getting back into my shoes, huh?

CDR Yeah.

SPT Okay, I'm in the boots. Bring it on out.

CDR Okay, it's clear. Your umbilical -

SPT Yes, nice and clear.

CDR Yes, it's on its way.

SPT There's a bit of problem at first, leaning back (laughter) towards the Earth.

CDR Say when.

SPT Keep it coming. Ready, when.

CDR Let me tell you something Joe.

SPT Yes.

CDR That handle? It's very stiff and it's a very tight fit.

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Time: 13:25 CDT, 14:16:25 JST
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SPT This one.
CDR Yes sir. So hang on.
SPT Okay.
CDR You may have to really wrinkle to get it
out.
SPT I've got it.
CDR Okay. Going to retract.
SPT Okay. Okay it didn't work. All right.
It's stowed.
CDR Lock it.
SPT I guess it's locked. All right, in work.
CDR I think I've got -
SPT It's funny but I don't think so.
Bright out here. And the doors are marked on the real ATM.
CDR Need any more umbilical?
SPT No, I don't.
CDR Okay.
SCHWEICKART PLT, just a reminder. We did have one
pen and ink change there that didn't come up on the teleprinter -
SPT Oh boy, oh boy.
SCHWEICKART - - pads there for you.
SPT What a gorgeous view. Go ahead, Paul.
PLT What was it?
SCHWEICKART Okay, that was - remember we want to close
the door and wait 20 seconds before you turn the main power
ON there on the checkout.
PLT Okay, you're going to have to tell me
as we go through it, I think.
SCHWEICKART Okay, just let me know.
CDR Hey, Rusty. What quads do you want me
to look into - quads that I can see from here and I'm not
even exactly sure where I am. I'm trying to figure that out
right now, what I'm looking at - what am I looking at?
PLT Let me get on with Joe then, Pete.
SPT Paul, Rusty, the S054 door is closed
which surprises me. I thought it was open.
SC We did, too.
SPT Well it ain't.
SCHWEICKART Joe, go ahead and open it. Hit it open.
SPT Okay. Paul -
PLT What?
SPT Go ahead with your checklist.
PLT Okay.

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Time: 13:25 CDT, 14:18:25 GMT

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PLT Okay, you got the lid open?
SPT On 82A, no.
PLT Yes. Well, open the lid.
SPT All right. Unlocked. Open. Cocked.
PLT Okay. Take the new one out and put it in
a temporary stowage container.
SPT Complete.
PLT Can you open the S082A door, underneath
the launch lock, and move the move the locking handle to
release the magazine.
SPT Okay. Once again I have a problem with
the film door because the aperture door is closed.
SCHWEICKART Understand the 82A aperture door is
closed, Joe?
SPT Yes sir. Every aperture door in the
place is closed.
SCHWEICKART Okay, we do need to get that one open,
and we do not want you to unpin that one.
SPT All right, I understand that, but I
would like it open so I can get at the film.
SCHWEICKART Okay, that should be - P. J. should just
be able to have POWER DOORS to OPEN. Stand by just one.
SPT I'm clear, Paul.
PLT Yes, are we clear, Rusty?
SCHWEICKART Beg your pardon, say again.
PLT You want me to do it.
SCHWEICKART Negative, Stand by just 1 second.
Okay, the answer is GO. POWER DOORS to OPZN.
PLT Okay, POWER DOORS going OFF.
SCHWEICKART Negative, Sir. POWER DOORS ON.
SPT Okay, it's opening. Yes, it's opening.
That's fine, it's clear. Okay, I got the door open. It
interferes with S054 a little more than the trainer. And the
LAUNCH LOCK is to UNLOCK. Go ahead, Paul. Okay. Okay? That's
fine Whoops. Hey, that's got it. I think. Pesky thing. It's
in the can. The can is closed and locked and I'm going for the
new film.

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SPT All right, arrow to arrow, and I'll stick it in far enough to get it somewhat secured. Now I will extend the handle. Okay, the handles out and locked. Here we go. It didn't go very - you know, real firmly, positively, but it appears to be in all the way. The white flag is fully over it and I'm gonna bolt the lock handle down. And it came in with a nice firm clunk. The flag's there. Okay. Go ahead. Take six frames. Do whatever you need to do.

CDR Wait, wait a minute. Have you pulled the pin on the 54 door down there? Well, okay. All right, go ahead.

CDR Listen, everything they do on the ATM is chopped up, and I'm going to give them a little dissertation after we get inside.

SCHWEICKART Okay now, Stand by now, Pete. P. J. we're ready to give you that little MOD there, if you want it now.

PLT Okay, let's have it.

SCHWEICKART Okay, you see where it says EV 3 panel 130?

PLT No. Why don't you tell me what to do?

SCHWEICKART Okay, on panel 130, you want to go FILM RESET, SELECT XUV SPEC.

PLT Go ahead.

SCHWEICKART Okay, RESET switch to RESET.

PLT Okay, it reads 201.

SCHWEICKART Okay, that's just right. Okay, now you want to go POWER DOORS to OFF, and wait 20 seconds and Joe should see the door close.

SPT It's closing. It's fully closed.

SCHWEICKART Okay, P. J. you can now pick up. And the checklist you've got there, that's your normal message, with MAIN POWER switch ON, power doors talkback white, and barber pole, on down the rest of the thing.

PLT Yeah I (garble) this last one out of sequence Rusty, I gotta pick up where I am.

SPT Here comes the terminator.

SCHWEICKART Okay, be advised we will not be doing the maneuver until Goldstone, next rev. We're going LOS here, we're picking up Goldstone at 19:43.

PLT Okay. Okay.

CDR You guys get that ATM stuff squared away. I can't see having two guys hanging out a hatch, and they've got - procedures are all screwed up.

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Time: 13:25 CDT 14:18:25 GMT
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SCHWEICKART Rog.
CDR EVA procedures were in good shape, Rusty,
you guys did a good job, but I'm a little lacked at this
ATM Mickey Mouse.

SCHWEICKART Okay, just as we're going over the
hill, P.J. we do need you to go to SI here, to get us back
into configuration.

CDR You get his last, P. J.? Okay.

SPT Say again.

PAO This is Skylab Control 18 hours 39
minutes Greenwich mean time. We've had loss of signal
at Vanguard. We do have a 1-minute pass at the Hawaii
station in 59 minutes. That will be followed by about a
3-1/2 minute pass at the Goldstone station. As we had LOS,
Joe Kerwin had successfully replaced the magazine of the
SC82A experiment, and had latched open the door of the
S054 experiment. A preliminary assessment here in the
Control Center, based on first look at the solar array
wing, we believe that two of the solar panels are deployed
about 40 percent, one about 30 percent. I don't have any
power numbers yet, but EGIL believes that in the present
configuration of the panel, there is enough power to charge
all eight of the power conditioning group batteries in the
airlock module electrical power system. In the present
configuration there is enough power being produced from the
deployed solar wing to charge all eight batteries. We will
plan to do the 45 degree pitch maneuver during the Goldstone
pass, and let that wing hot-soak in the Sun to try to free
the actuators and get full deployment on the panels to
provide even more power. At 18 hours 41 minutes,
this is Skylab Control.

END OF TAPE

SL-II MC-650/1

Time: 14:08 CDT, 14:19:08 GMT
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PAC This is Skylab Control at 19 hours 8 minutes Greenwich mean time, thirty minutes away from a short 1 minute pass at Hawaii. Here in the Control Center the clock we've been using for EVA is continuing to count. It shows 3 hours, 45 minutes since hatch opening. We would expect though that the crew is back inside and has buttoned up the hatch. They were essentially through with the EVA when we had LOS at Vanguard. Remaining tasks were to break down the cable cutter pole, stow the sections in the air-lock module. And then ingress themselves while trying to stuff their umbilicals back in the air-lock module which is no small task in itself as you've heard. They've had problems with the umbis - umbilicals all day. So when we see them at Hawaii, we'd certainly would expect them to back in the spacecraft. Spacecraft is in darkness now, 8 minutes remaining in the night time for the crew. 28 minutes from acquisition at Hawaii and 19 hours 10 minutes GMT, this is Skylab Control

END OF TAPE

SL-II MC-651/1

Time: 14:36 CDT 14:17:36 GMT
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PAO This is Skylab Control. Greenwich mean time 19 hours 36 minutes. We will have acquisition over the Hawaii tracking station in approximately 1 minute. This will be a very brief pass of approximately 1 minute. We will hear from the crew on a success of closeout of the - closeout of the extravehicular activity.

CC Skylab Houston at Hawaii for just about 30 seconds.

CDR Okay Houston. Be advised that we had another inactive gyro on us that we reconfigured the gyro to and now we're having a MOL SIEVE flow problem. I'm not exactly sure of what it is. We also got a secondary coolant slope - coolant loop temp low. We shut that off and turned on the primary loop.

SCHWEICKART Okay, we got that. Stand by just one.

SCHWEICKART Do you have a redundancy management enabled or disabled on the C-axis?

CDR We are in rate gyro 2 only with RM enabled. It was a 50036 Rusty.

SCHWEICKART Okay, stand by just one.

SPT We called up the gyro displays and gyro 1 was cycling from plus mini to minus mini.

SCHWEICKART Roger we like gyro 2, but stand by on the RM.

SPT Okay.

CDR Okay, now the MOL SIEVE heat exchanger (garble) temperature is reading 5 degrees. And the thing is making some really weird noises there with the fans on.

SCHWEICKART Okay, on the rate gyro configuration, we're going to commanding that from the ground, so we'll take care of the redundancy management.

SPT What are you going to leave us in?

SCHWEICKART Okay, all we're going to do is inhibit redundancy management. We like gyro 2 and we're going to use it as a baseline and compensate 3 to it. And stand by and I'll give you some information about the maneuver.

CDR Okay, and anybody that knows anything about the MOL SIEVE, on MOL SIEVE A, the fan - - we powered up the secondary fan, and after about 3 minutes operation it started making a - an in and out - almost as if a flapper valve is flapping back and forth, opening and closing. It does it on both the primary and the secondary fans.

SCHWEICKART Okay, we read. Stand by.

SCHWEICKART It looks like what we're going to plan to do here is maneuver at Goldstone, we're going to try to get that maneuver in at that time. Just stand by - -

END OF TAPE

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Time: 14:42 CDT 14:19:42 GMT

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SCHWEICKART Okay, Skylab. How do you read?

PLT Loud and clear.

SCHWEICKART Okay. First thing - order of business here. We need you to get this - the primary coolant loop OFF, we'd like you to go to secondary coolant loop inverter 2, pump Bravo. Over.

CDR That's complete.

SCHWEICKART Roger. Understand, that's complete, and stand by and I'll give you some information on the maneuver here.

CC Okay, the information on the GYRO status and the maneuver is that we are running on Z-2 and we're gonna use that as a baseline. We're gonna compensate Z-3 to it after about a rev of data. And at that time we plan to switch to 2 and 3 RM ENABLE. Now that'll take us about a rev before we get there, so we'll run on SINGLE GYRO up until that time. We will be starting maneuver - the maneuver about now, and you can expect TACS firings because we are saturated in that axis.

CDR Roger.

SCHWEICKART And we're working the problem on the MOL SIEVE here and we should have some information for you shortly.

SCHWEICKART Okay, just for information. We do think that Z-3 is okay, but its compensation is bad, so after we get the compensation in, we think we'll have a two-gyro situation about one rev from now or something.

CDR Okay, also, what's the nominal configuration for the valves on the condensate tank when we're hooked up to the holding tank?

SCHWEICKART Stand by 1. And for your information, we're working out a message where we can get you - where we can get you a single pad which will modify your post-EVA that will take care of the total configuration. And that should be coming up here probably by Vanguard. In the meantime, Pete, we got the good news part of this whole thing and that is, that today for lunch you may have hot dogs instead of cold dogs.

CDR Roger.

SCHWEICKART Okay, and the configuration on the condensate tank is FILL and CLOSE.

CDR I read that. We've got four (garble) items to hook back up to a (garble), so that one's okay for the moment. It looks to me like we've got something blocking MOL SIEVE A. Can you hear it? The fan is (garble) just -

CC As a matter of fact, we can hear it.

Okay, what we're recommending for right now is MOL SIEVE A

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Time: 14:42 CDT 14:19:42 GMT
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and B FANS OFF. We got about 30 seconds to LOS at Goldstone, we'll pick you up Vanguard at 20:05.

CDR Okay.

SCHWEICKART And if we haven't lost you here yet, quite, then we'd like to use your head on lights. We'd like to have you minimize it here, until we get back in solar inertial after a few revs, and just keep them to a minimum, but whatever you want there.

CDR Okay.

SCHWEICKART Okay, and if you still read us, we would like to have the OWS HEAT EXCHANGER FANS in the aft compartment ON.

PLT We will Dave, as soon as I pick up the checklist.

SCHWEICKART Okay, dandy.

PAO This is Skylab Control, Greenwich mean time 19 hours 48 minutes. We've had loss of signal over the Goldstone tracking station, with acquisition scheduled in 16 minutes over Vanguard. During this brief stateside pass, Commander Conrad discussed with the ground the apparent noise being made by MOL fan - MOL SIEVE fan B. Mission Control Center, through astronaut Rusty Schweickart, recommended to turn both MOL SEIVE fans A and B off for right now, and the ground will continue to look at it over the Vanguard tracking station. The ground also advised the crew that the Z-RATE GYRO looks good right now. Z-RATE GYRO number 2 and they're getting ready to pass up the commands to make the maneuver to put the vehicle in a 45 degree attitude to turn the newly deployed solar panels toward the Sun. At Greenwich mean time 19 hours 49 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC-653/1

Time: 15:04 CDT, 14:20:04 GMT
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PAO This is Skylab Control, Greenwich mean time 20 hours, 4 minutes. We will have acquisition over the Vanguard tracking station in approximately 1 minute. The crew has been back inside the orbital workshop in the airlock area for approximately 1/2 a revolution. We anticipate conversation with CAPCOM Rusty Schweickart and Bob Crippen with the Skylab crew.

SCHWEICKART Skylab, Houston, we got you over the Vanguard for about 10 minutes.

CDR Whoopy.

SCHWEICKART Okay, I got some good news for you. First of all everybody down here is shaking hands and we wish we could reach up there and shake yours. That was a dandy job and everybody was very pleased, and secondly if you haven't already gotten there we're saying press on with the normal post EVA checklist down to page 3.1-8 where it says eat. Go ahead and have a nice one and just cool it. We'll - we'll take care of it from there on and get back up to you if we want you to go past there. That is we do not want you to go into the AIM reconfiguration.

CDR Okay, we - we - what have you got for us, another EVA tomorrow?

SCHWEICKART Well, we're considering all kinds of things, you know, people are expecting great things. You do a good job - -

PLT Hey, Rusty, see I got - I got a couple words. One is, in order to get the heat - OWS heat exchanger fans to start up when in the OWS position, I had to come close those logic breakers. Now they'll continue to run with the breakers open, but I had to close the breakers to get them started.

SCHWEICKART Okay, we copy. Thank you.

PLT Okay, now the other thing is a recommended change to the EVA checklist is far into the EVA have somebody turn off the fire sensors in the aft lock compartment or it gives the PLT pitter-pat when both fire sensors go off when the Sun shines in the locker compartment during the EVA.

SCHWEICKART Thank you, that - that - the choice is subtle, we appreciate that one.

CDR Just one sensor, 2392-2, the one that is sticking out and not looking back into the heat exchanger gets reflected UV, I guess. Cause it sure went off right after we popped into daylight Joe was halfway over the hill and I was halfway out of the air (garble) alarm down there (garble)

SCHWEICKART Okay, thanks.

PLT Also, indications are we may have frozen up the mol sieve, if such a thing is possible with the fan

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off the out temperature - temperature out indication is gradually coming up. And that's - the fans, both primary and secondary run. They both make the same strange noise and they don't suck. As Pete says, it's like their blowing into a blocked pipe which they may very well be. Now, we got a question, did we freeze the plates or did we dry them out and will we have to rewet them, I don't expect answers now, but those are things you guys ought to be thinking about.

SCHWEICKART Okay, we got that, thank you.

CDR We changed something else. When it first came off and I got to looking at it, its dewpoint with 32 and it has slowly crawled up to 44. Now, we have the original air flow configuration back and that we've hooked up the big duct between the OWS and we have our fan running, blowing hot air on the heat exchanger and we're trying to move some hot air up into the MDA because it's pretty darned cold up there, now.

SCHWEICKART Okay. The only thing we may have to do there is do some power down. So we'll let you know though if we need to power any of that stuff off. We got - we're in a bind here between getting things warm and keeping the power down.

CDR Understand, and what's the matter with CBRM number 3. I noticed it's all shut up. Did y'all do that?

SCHWEICKART Okay, we did that down here.

CDR How about telling us?

SCHWEICKART Okay, that's to keep the heaters off the battery problem, there, we shut it down from here. There's no sweat with that.

CDR Okay.

CC And, PLT, I wonder if we can have some positive feedback, probably from Joe and Paul. Did the frames decrement on S082A, and was 54 door in fact pinned open after you got done?

CDR Everything came out just the way it was advertised, we took one picture and it decremented to 200. It went to an operate light and back to the green. So, y'all had the problem figured out.

CC Fantastic.

END OF TAPE

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CDR - - it had decremented to 200. It went to an operate light and back to a green. So ya'll have the problem to figure out.

SCHWEICKART Fantastic.

CDR And Joe pinned the door, no sweat, it's pinned open.

SCHWEICKART Okay, we suggest you have a very nice lunch and maybe even a little siesta there. And we'll get back to you.

CDR Okay, we've got a lot of cleaning up to do. I think we'll start on that.

SCHWEICKART Okay, Skylab, Houston. We do have one thing that does look mandatory here to get our momentum back in shape. We need a nominal H cage of 52023 at 20:25, and that is moderately time critical.

PLT Okay, nominal momentum H cage at 20:25.

SCHWEICKART That's affirmative, 52023.

SCHWEICKART Okay. Skylab, we've got about 1 minute to LOS here at the Vanguard. We're going to pick up the Hawaii at 21:14. And just for general information, we've got something like 66 minutes of real time data on that EVA. And the average metabolic for you people is 1080 and for Joe, it was 1700. And Pete, I'd say we designed the EVA the right way.

CDR Yeah, right.

CDR Yeah, Roger. When we have time this afternoon, we'll debrief the EVA. I can tell you what a difference it was between the water tank and up here. That's why it took us longer.

SCHWEICKART You got the job done, we don't care.

CDR Well, we got the job done and only for one reason, and that's because Joe asked for the end of the double and long tether up and keep himself anchored. If he hadn't been able to anchor himself we wouldn't been able to do it. And I think the difference is that the (garble) in the water between the pole and you, you're hanging on makes a difference because I bet he keeps splashing around (garble) - -

PAO This is Skylab Control. Greenwich mean time 20 hours 16 minutes. We have had loss of signal at the Vanguard tracking station. The crew has been advised to just cool it according to astronaut Rusty Schweickart. They've been told everyone down on the ground is shaking hands. You did a dandy job, everybody is pleased. The crew has been advised to eat lunch and take it easy, and they will be talked to again as the spacecraft comes back over Hawaii in 57 minutes. The assessment on the ground and

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as concurred in by Commander Conrad is the problem with the MOLE SIEVE fans is likely that they froze up when the airlock module hatch opening was opened. Commander Conrad reported the S082 film was successfully recovered, S054 door was pinned open successfully. And at this time Greenwich mean time 20 hours 17 minutes, this is Skylab Control.

END OF TAPE

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Time: 15:27 CDT 14:20:27 GMT
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PAO This is Skylab Control. Greenwich mean time 20 hours 27 minutes. Dr. Zeiglschaid reported to Flight Director Milt Windler on the last pass that the BTUs, the metabolic rate, in other words, the workload, work rate produced by Commander Conrad and Science Pilot Joseph Kervin were as follows. Commander Conrad average rate was 1,080 BTUs versus the Science Pilot 1700 BTUs. This compares favorably to the workload that Commander Conrad had during the Apollo 12 extra-vehicular-activity on the moon. At the close of the EVA number 1, when Commander Conrad was ingressing the Lunar Module on the lunar surface he had 1300 BTUs. When he ingressed on EVA 2, he registered 1500 BUTs. Dr. Zeigleschaid reported that the average of 1080, the average was 1,080 for the EVA here today, and he had peaks as high as 1400 during the several hours they spent outside the spacecraft. Preliminary assessments on the ground show that the deployed solar array panel is now producing between eight and nine hundred watts. The maneuver was made, the pitchup, and assessment is now that we will probably pitch down the vehicle as we pass over the Hawaii tracking station in 45 minutes. At Greenwich mean time 20 hours 29 minutes, this is Skylab Control.

END OF TAPE

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Time: 15:36 CDT 14:20:36 GMT

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PAO This is Skylab Control. Greenwich mean time 20 hours 35 minutes. William C. Schneider, Director of the Skylab Program, Mr. Leeland Belew, Program Manager from Marshall Space Flight Center, and Mr. Kenneth Kleinknecht, Skylab Program Manager for the Johnson Space Center are scheduled to begin a press conference in the Building 1 News Room immediately. And Dr. Royce Hawkins and Astronaut Rusty Schweickart are in route from the Mission Control Center to the press conference. We will take the line down and during the Hawaii and play any air to ground at the close of the press conference. Skylab Control at Greenwich mean time 20 hours 36 minutes.

END OF TAPE

SL-II MC-657/1

Time 16:35 CDT, 14:21:35 GMT

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PAO This is Skylab Control, Greenwich mean time 21 hours 35 minutes, during the press conference conducted in Building 1, we had a pass over the Hawaii tracking station which ran about - approximately 7-1/2 minutes during which time Commander Conrad discussed the procedures passed up by Rusty Schweickart for the EVA, he said the procedures were just super. We'll play that tape now and hold the line up for the pending Van - Vanguard pass.

CC Skylab, Houston, we're AOS Hawaii for the next nine minutes and we should be dumping at data recorder at this pass.

CDR Hello, Crip. Roger.

CC Rusty gave it back to me.

CDR Hurray, maybe we won't get so many changes.

PLT Hey, Crip, I'd like to do something about these MOL SIEVES. I mean - the status right now is that, our outlet temperatures come up. Apparently it was frozen. We didn't have the line blocked in there due to freezing. I just went up and ran both the PRIMARY and SECONDARY fans on MOL SIEVE A and it runs all right. However, the present configuration is, as you probably know, is that most MOL SIEVES are shut down right now. Both fans are off.

CC You got both - both fans off?

PLT Fans are off and both MOL SIEVES.

CC Roger. But you did try the one and A?

PLT That's right and the sieve flow light does not come on anymore and it doesn't make that noise anymore. As Pete said, I think it was the fan stalling out as they were flowing into the - into a blocked pipe.

CC Stand by 1 on that, Paul.

CDR (Music) You can see we're settling to a rather normal operation again.

CC Rog, sounds like we're right at home.

CDR Say, Crip, I would like to have your pass on. (Music) Rusty, and those guys procedures as far as getting that staff panel up works super including the directions - make all the gear and everything. I was a little disturbed with all the late ATM changes and I wish those guys - research their subject matter a little more thoroughly before they send it up so - because when you send up those split-up pads, there's no way we can keep them by message number. We got them going to the guy that they belong to and - and message numbers to us are meaningless and gee things were such a jumble, I was getting all nervous that something was going to get goofed up. So if we do it again, I guess my feeling is that if we say we're ready to go EVA the next day and the ground says okay and then I assume their ready to go the next day and that means everybody. If the ATM guys need to dust up those procedures.

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CC Roger, we copied. Also, I guess you probably realize that on that last one we sent you up there in a hurry we got the pages scrambled around, and with that was probably was confusing.

CDR And I tell you another thing, and it really helps the next time we do something like that. If you ever decide that you got to make changes, I'd rather have you send us one, clean, big, super long teleprinter message that's in the proper order than what happened to us because man, we had pages cut out and pieced together and we got lost and there was no way we could handle that. Now, it's my thinking, this morning would have been, first thing, is to put it all together, send it up one big long string, so I'll be getting the situation, bits and pieces of stuff, forget it. I'd rather have you hold them and send it one great big long message, we'll understand it quicker than the way it came through last couple days.

CC Roger, we copy, Pete. While I've got you here, we did have a question on the way to SAS panels came out. We'd like to know whether they jumped out to about to where they ended up or did they jump out and then ease on out?

CDR (Laughter) I'm sorry you asked that question. I was facing away from it, heaving with all my might and Joe was also heaving with all his might when it let go and both of us took off and by the time we got ourselves under control and back down and around the spacecraft some place again, (garble) already out locked, so I can't answer that question for you. By the time we got settled down and looked at it, those panels were out as far as they were going to go at the time. Now, the cords are out a lot further than they were when it was folded, I want you to understand that, but they did come out. All three of them came out and some degree more than where they were folded along side the vehicle.

CC Okay, we copied that. Can you give us an idea of a time estimate before you got a chance to look out after you pulled it?

CDR Oh, not too long, I guess 15, 20 seconds and they come down to the extend that they were going to come at that point, I guess.

CC Okay, copy that. Thank you.

CDR Do you have any - any indication of - of percent extention on the ground or you don't get that kind of (garble) - -

CC About 30 percent on I believe, on the inner one and about 40 percent on the other two.

CDR Okay, there is no indication that they are moving at all slowly or anything like that?

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CC Negative, it doesn't appear to be maneuvering right - moving out right now. We at this state that their frozen up, of course, and that's why we're sending up this attitude trying to - trying to fall out a little bit.

CDR Well we got another 14 days you can send Rusty back to Huntsville and we'll be glad to go out and pull those out for you.

CC I don't think we'd like to sit with the way it is for awhile and see what happens.

CDR Okay, that's all right with me.

CC And, PJ - regarding your MOL SIEVE fans, we'd like to go ahead and leave them OFF until our Vanguard pass. We are coming up at 21:44.

CC Skylab, Houston, we'd like to leave the MOL SIEVE fans OFF until our next pass at Vanguard and we'll take a look at it then and make a decision about turning them off if it still appears that that loops pretty cold. Also we're going to initiate a small maneuver here which makes up for - correction scrub my last - we will not be doing the maneuver and we're about 30 seconds to LOS and we'll see you again at Vanguard at 21:44 - 21:44.

PLT Okay, I understand. Do you want to leave that fans off for awhile, yet, huh. What did you say was pretty cold?

CC Rog. It's the secondary coolant loop that's pretty cold on it, Paul.

PLT (garble) it seems to me would power up the heat exchangers in the MOL SIEVE, it might help though, huh? You guys know that, okay, we'll wait for you at Vanguard.

CC Okay, we'll just - hold it where it is right now and take a look at it at Vanguard.

PLT Yes, I noticed that we got a - mol - mol lights on - -

END OF TAPE

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CC Skylab, Houston. AOS over the Vanguard about the next 9 minutes.

SPT Roger, Houston. We have the CDR's suit on suit drying and we assume that 10 hours is still a reasonable time. And I guess at the end of that time we plan to put the same dessicants back in too, unless we hear different.

CC Joe, I missed you last there, would you say again please?

SPT Right. At the end of the drying time, we plan to put the same dessicants back in unless we hear different from you.

CC Okay, we copy. And I've got the PLT available, I'd like to give him some words on his MOL SIEVE.

SPT He's coming, he's coming.

PLT Go.

PLT Go ahead, Bob.

CC Okay, we'd like you to go to panel 203 and turn the SIEVE A timer OFF. Then we'd like you to use the T handle, panel 228. Place the ABSORB BED to DESORB. We want them both on DESORB. And we want you to go panel 203 SIEVE A fan power switch to PRI, and after 1 hour panel 203 take the timer back to SECONDARY.

PLT Okay, so you want to leave, you want to run the fans and leave the SIEVE open desorb for an hour.

CC That's affirm.

PLT Okay.

PLT Hey, Crip, do you want us to put the dessicants in the vacuum dryers while we're drying the suits?

CC Joe, we don't want you to power anything up on that suit drying until we give you a go because of the attitude that we're holding. We don't have the power for it.

SPT Understand that and we will hold the blower. However, we're not going to heat the vacuum of it, so I wondered if it would do any good just to put the dessicants in and treat them the way we do the feces?

SPT We could leave them in 24 hours each, I guess.

CC Okay, I'm trying to get the word on that for you, Joe.

SPT Okay.

CC And Skylab, Houston. We're going to be doing a small attitude maneuver here to get it squared away per momentum and power, and we'd like you to stay off the DAS for us for a while.

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SPT You bet.
CC Joe, on putting the dessicants in drawers
5 and 6, I guess we don't really see any problem with it.
You can go ahead and put them in there without power on that.
It might help. We would also like to verify that we did
get the EVA docking lights out.
SPT Roger.
SPT We're pretty sure we did, and Paul is going
to doublecheck the docking lights.
CC Okay.
SPT Did we do any good on temperatures?
CC Say again about temperatures.
SPT Did we do any good on panel temperatures?
CC They came up slightly.
CC Okay, Rog. Panel number 1 the outer
most is out to about 80 percent right now.
SPT Ho, ho.
CC Feel like you're flapping your wings?
SPT Yeah. We must be at a pretty good
angle then, huh, because the array amps don't show it. We are
only feeding batteries that are already charged right now.
CC Yeah, we've got you cocked up about
45 degrees so they are getting the normal Sun anyhow.
PLT Yeah, okay.

END OF TAPE

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CC - 5 degrees so that they aren't getting the normal Sun anyhow.

PLT Yeah, okay.

STP Hey, Crip. You say you wanted both BEDS in DESORB or both BEDS in STORAGE? You said DESORB, right?

CC DESORB, affirmative.

SPT When the hour's up, how about letting me play with the primary timer and see whether that's working or not?

CC Okay, I think we'd probably like to save that for awhile.

SPT You don't trust me.

CC And is the CDR available for a question, please.

CDR At your service.

CC Rog. Stand by one, Pete, but I guess this is for whoever needs to monitor, but we passed you up some procedures for post ZLV regarding monitoring the ATM batteries, and we would like you to use those for us.

CDR You're talking about the ones if we get six batteries off the line throw the BATS ON, and if we get like BAT chargers or (garble) do so and so and so and so.

CC Yes Sir, that's it.

CDR Okay, we have that prominently displayed on the ATM console and if they start showing off the line, we'll holler for help and do something.

CC Oh -

CDR The way I read that that was after we went into nighttime. Is that correct? After you've been out in the daytime?

CDR Hello.

CC Stand by one.

CC I'll get an answer on that one for you shortly, Pete. We are gonna go LOS here in about 1 minute and we'll see you again at Hawaii at 22:51. And that monitor is during the nighttime.

CDR Right. Right after we go into night, we'll pick her up.

CC Roger, and for P. J. if you're listening. Still, please, on panel 207, we'd like to get REG 1 and 2 POT ADJUST turned clockwise 15 degrees.

PLT Clockwise 15 degrees. You want to put them all on the line, huh?

CC We're going to try to pick some of the load with the OWS wings.

SPT Hey, we got PCG current. How about

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Time: 16:49 CDT 14:21:49 GMT
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that? First time in 15 days.

CC That work paid off. And Skylab we need
a compensate at 22:22.

CC Skylab, Houston. Did you copy my
last?

PAO This is Skylab Control. Greenwich
mean time 21 hours 54 minutes. As the Skylab space station
passed over the Vanguard tracking ship a happy group of
Johnson Space Center management personnel headed by Dr.
Chris Kraft, watched the displays at the Mission
Control Center, as the wing number 1 slowly de-
ployed. It was 80 percent when the Skylab space station
began it's pass over Vanguard. It went from 80 to 90 percent
deployed in the wing number 1, which is the outboard wing
of the 3 wing panel that was deployed today by the crew.
The other two panels, number 2 panel is presently 40 percent
deployed, and number 3 panel is 29 percent deployed. Science
Pilot Kerwin remarked to the ground during this pass. "We
finally got PCG current. First time in 14 days" PCG is
the power conditioning group of the orbital workshop power
supply, similar to the CBRMs of the ATM power supply. We've
had loss of signal over Vanguard tracking station. Our next
pass is over Hawaii in 55 minutes. This is Greenwich mean
time 21:55. This is Skylab Control.

END OF TAPE

SL-II MC-660/1
Time: 16:59 CDT 14:21:59 GMT
6/7/73

PAO This is Skylab Control. Greenwich mean time 21 hours 59 minutes. Prior to the Vanguard pass the spacecraft attitude was changed. It was put in 45 degree pitchup following the EVA. It has been lowered slightly to 40 degrees. This means that the CSM portion of the vehicle is facing 40 degrees up towards the Sun. We will have acquisition at the Hawaii tracking station in 51 minutes. This is Skylab Control at Greenwich mean time 21 hours 59 minutes.

END OF TAPE

SL-II MC-661/1

Time: 17:49 CDT 14:22:49 GMT
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PAO This is Skylab Control. Greenwich mean time 22 hours 49 minutes. Acquisition at Hawaii tracking station is expected momentarily. Capcom is still Astronaut Bob Crippen, who was the Commander of the Skylab support crew which performed the Skylab medical experiment altitude test last summer which went through all the medical protocol and operated the medical experiments which are now being used aboard Skylab. The crew should be still performing post EVA activities and ending their day. We'll have live air to ground. We'll leave the line up now.

CC Skylab, Houston. We're AOS over Hawaii for the next 7 minutes.

PLT Hello, how are we doing?

CC Pretty good. Looks like you did get that nominal H cage in, I called just as we're going over the hill. I was worried about it.

PLT Yeah, we got it.

CC Very good. You guys do good work. I've got some word on your primary coolant loops that I'd like to feed up to you.

PLT Go ahead.

CC Okay. It appears to us that TCV Bravo has failed in the full cold position. And we do not want you to activate the primary coolant loop. If the secondary coolant loop caution and warning occurs, what we'd like you to do is go set cool temp low, if that's the light you get to go to press on SECONDARY.

PLT Wait a minute, Bob, I didn't follow that last. Say your last two sentences again.

PLT What do we do if we get a SECONDARY coolant temp low light?

CC Just stay on the SECONDARY loop.

PLT Okay.

CC Okay. If you go to get a set cool flow light we want you to go to INVERTER 3 PUMP Charlie.

PLT Okay. Now we got control of both loops onboard. Do you want to leave it that way?

CC Rog, we'll leave it that way for right now.

PLT Okay.

CC You might be interested to know that section 1 of the SAS wing is out 100 percent now.

PLT Yeah, we've got a visual verification on that.

CC And section 3 has started to move.

PLT Yeah, let's hear it for section 3.

SPT Super.

CDR Crip, there is a possibility that meteoroid

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panel could have damaged part of section 2, because that's pretty well underneath where it tore off and passed underneath the panel.

CC Roger, we copy. And it has not moved since we first observed it.

CDR Yeah, I've been looking at it and I keeping thinking I see it oscillating just a entsiest bit, like it's trying but it's not moving. I can see number 3 completely and it's flat as a pancake out there. I can see about the first 3 rows of number 2.

CC Okay.

SPT Hey, Bob, number 2, the middle section is the one that split up and feed all APCGs, right?

CC Stand by one on that, Paul.

PLT Okay. I think, correct me if I'm wrong. The inboard section feeds 1 through 4, the outboard feeds 5 through 8, and the middle one is split up to feed all 8.

CC We don't have a ready answer for you on that, we're checking it.

PLT Okay, no rush.

CDR Tell me about that coolant loop problem. I didn't quite hear that, Bob.

CC Well, we think we've got a valve failed in the full cold position. That's ICV Bravo failed in the full cold.

CDR Is there anything we can do about it?

CC No, we're working on a procedure right now. There's nothing you can do now.

CDR Okay, very good.

CC And Paul regarding your question on which PCG the SAS section - -

END OF TAPE

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CC Now, there is nothing you can do now.
CDR Okay, very good.
CC And Paul, regarding your question on which
TCGs the SAS sections feed, you are correct.
PLT Okay, thank you.
CDR They also be advised if we did
get a PPCO2 high light here a little while ago with
the sieve off with out taking any out and it's reading about
55 out.
CC About 55 out on CO2.
CDR Yes.
PLT Yeah, but A's has been reading higher than
B the whole flight.
CC Okay, copy. And Pete, I've got a time
line question I'd like to ask you here, if you got a minute.
CDR Go ahead.
CC Okay, not tomorrow but the day following
that, day 160 would you like to know whether you would consider
getting up 1 hour early so that we can swap out S073 to put in the
ETC for EREP pass?
CDR Sure. Do they get up earlier or everybody?
CC It would be everybody.
CDR Now, if it's everybody, sure.
PLT Why ETC?
CDR That's provided you let us go to bed an hour
earlier the night before. S009 at 224021 or whatever it is.
CC Well, we got a summery time line and that
we should be shipping you this pass but it doesn't reflect
that, it just calls for you to stay up as late as you normally
do, so I guess we'll take a look at it.
CDR No, no I'm just pulling you're leg, Crip.
Hand it up, we'll do it.
CC You guys are - you guys are too enthusiastic.
CDR We figure SL-III and SL-IV is going to owe
us a few more.
CC I think they are. They owe you quite a
bit right now.
PLT Hey, Crip, the CDR mentioning S009 job my
memory, guess what I missed?
CC Did you forget - -
CDR 009 - -
CC We'll let it go this time, Paul.
PLT No, go ahead and ship it up. I'll get it
as soon as you get a new one figured out, ship it up.
CC Okay. By the way, you can go ahead and
go back to timer SECONDARY on MOL SIEVE A at this time.
PLT I was just on my way up, don't to it yet,
Pete.
CC Okay, I won't.
CDR Listen, Crip, the other thing is can you
give me an idea how many revs you going to run this way?

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Time: 17:55 CDT, 14:22:55 GMT
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CC I'll see if we can get hack for you on that,
Pete. We're going to go AOS here in just a few seconds, then
we'll see you again at Vanguard at 23 - 23.

CDR 23:23. Okay - -

PAO Skylab Control, Greenwich mean time
22 hours and 59 minutes. We've lost the signal over Hawaii
tracking station. Command - CAPCOM Robert Crippin report to
the crew that the ground has confirmation that - that
section 1 of the solar - solar array panel on the workshop has
deployed 100 percent. Spacecraft Commander Conrad affirmed
that by saying visually that he could see the same thing up
there. Section 3 - section 3 is the one that is deployed
100 percent. Section 2 the middle panel is deployed presently
at 39 percent. And Section 3 the closest to the - closest
to the vehicle is deployed presently, only 32 percent. As
Skylab crosses over the South Pacific with acquisition
scheduled over Vanguard in 22 minutes, this Skylab Control
at Greenwich mean time 23 hours.

END OF TAPE

SL-II MC-663/1

Time: 18:03 CDT 24:23:03 GMT

6/7/73

PAO This is Skylab Control, 23 hours 3 minutes. To clarify the last announcement, wing number 1, the outboard wing, is the wing that is - the section of the wing that is fully deployed, 100 percent. Wing number 2, section number 2, is presently 40 percent deployed. Section number 3, the closest to the inboard panel, is presently 31 percent deployed. We will have acquisition at Vanguard tracking station in 18 minutes.

END OF TAPE

SL-II MC-664/1

Time: 18:28 GDT 14:23:18 GMT
6/7/73

PAO This is Skylab Control, Greenwich mean time 23 hours 19 minutes. We will have acquisition of the Skylab vehicle as it crosses the Vanguard tracking station. In previous discussions over the Hawaii pass, the ground advised the crew that apparently there's a malfunction in the coolant loop system aboard the spacecraft. Apparently there is an open valve in the primary coolant loop, and what the crew has been advised to do is shut off the primary pump on the primary system. They are now using the backup, the secondary coolant system, and will begin troubleshooting the problem on the ground to pass up an operation to the crew, hopefully to correct the problem in the primary loop. We anticipate conversation with Capcom Hank Hartsfield, and the Skylab crew.

CC Skylab, Houston through Guam - through Vanguard for 8 minutes.

CDR Hello, Houston.

CC Hello there, you guys did a great job today.

SPT Well, we had a good time. Just been monitoring the BPS up here, Hank, and from our onboard displays, we got 12 charge completes during the night, but all the battery voltages appear to be okay. Do you guys agree?

CC Roger. We concur and we notice also, that those sections of the SAS are still creeping out.

SPT Good. What are your latest percentages?

PLT Do you show any movement on section 2 now, the middle section, Hank?

CC That's affirmative. We're showing it about halfway out and section 3 about 34 percent.

PLT How about that.

CC It looks like we're gonna want to stay in this attitude for at least one more rev.

PLT Good show.

CDR We got a full state of charge on the - looks like on the 4 battery, 5, 6, 7, and 8 on the AM slot.

CC Skylab, Houston. Have we got somebody in the STS?

CDR No, but we can get somebody up there.

CC Okay. What we'd like to do is get the RATE 2 ADJUST clockwise 15 degrees, and for info our power does look good enough to stay here one more rev.

CDR Gonna stay here one more rev?

CC That's affirmative, at least -

END OF TAPE

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CC Okay, what we'd like to do is get the reg to adjust clockwise 15 degrees and for info our power does look good enough to stay here one more rev.

CDR We're going to stay here one more rev?

CC That's affirmative, at least one more rev. And we want reg 2 adjust clockwise 15 degrees.

CDR That's fine with us Hank. As long as those panels keep coming out, we'll stay here as long as you want.

CC Roger.

CDR What kind of a flight plan you got for us tomorrow?

CC It should be in the teleprinter now Pete.

CDR Okay, I didn't get enough exercise today, so I'm talking to you while riding the bicycle.

CC You're kidding.

CDR No, I'm not kidding.

CDR Only my arms and hands got a workout out there. My legs didn't get any.

CC While you're on the subject there, what did you cut the bolt with?

CDR We cut it with the cutter.

CDR See what happened was is we hauled in on the cutter as hard as we could and nothing happened. So I said well let me go out the pole and look and see what happened. And I got about 2/3 of the way out the pole and bango it decided to let go all by itself and whango the thing blew up, along with me the pole and the big BET.

CC That's a Roger.

CDR We had quite a wild ride when we broke the strap too, or broke the damper both Joe and I were even on the BET when it let go, and by the time we came down from out whipperdills both of us (garble)

CC That must have been a good ride.

CDR I'm sorry we didn't have movies of it.

CDR You guys have a feeling we'll get off free fully extended?

CC Roger, looks like they're going to go all the way out Pete. We're confident they will.

CDR Hey, that's the best news I've had all day. I thought really maybe that number 2 got damaged because that's the one that has the stuff piled up underneath it.

PLT Number one on the popularity pole for extra power is the head water heater.

CC Roger, copy.

CDR We have a head water heater and more lights so we can stop living like the mole in Dick Tracy.

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CC Roger, we'll work on it.

SPT Also, how about having somebody think about if we can use the wardroom window heater (garble) get rid of our friendly ice spots.

CC Copy.

CC Skylab, Houston. We're about 30 seconds from LOS. Ascension will be coming up at 38. And at this time wing - or section 2 is 60 percent and section 3 is 47 percent.

CDR Hey, that's great.

PAO This is Skylab Control, Greenwich mean time 23 hours 32 minutes with loss of signal at the Vanguard tracking station. The crew was passed up additional good news as CAPCOM Hank Hartsfield told the crew that section 2 of the orbital workshop wing is now 60 percent deployed and section 3 is 45 percent deployed. The crew was advised the ground is of the opinion that all three sections will be fully deployed shortly. In the last rev, section 2 and 3 went out at least 15 to 20 percent more than they were when they last passed over Vanguard. We will have acquisition at Ascension tracking station in approximately 4 minutes. We'll leave the line up for that pass and at 6:45 in the Building 1 newsroom we will have Flight Director Milton Windler and the EGIL for the change of shift briefing. Here at the Mission Control Center, Flight Director Neil Hutchinson and his silver team is taking over from Milt Windler's maroon team for the evening shift. As the power problem is improving with deployment of the orbital workshop solar array, Commander Conrad said "Looks like we can turn more lights on and stop living like the mole in Dick Tracey's comic strip." The vehicle will remain in its present attitude at approximately 45 degrees pitch-up. Pitchup of the CSM pointing upward toward the Sun. We anticipate acquisition at Canary. We'll leave the line up for any conversation.

END OF TAPE

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CC Skylab, Houston through Ascension 5-1/2
minutes.
PLT Hello, Houston.
CC And for info, we're going to do a Z-axis
maneuver of about minus 10 degrees to square away the momentum.
PLT Permission granted.
CC Thank you sir, and I also have a S009
pad for Paul.
PLT Come ahead with it.
CC Okay, the new reset time is 002306 and
period in the Beta the same. Period 120. Beta plus 1.
PLT Okay. 002306.
SPT Hey, Henry, I have a question on the
condensate tank dump heater.
CC Okay, shoot.
SPT If the temperature gage reads operate
for one heater, is it gonna read operate for the other, or
do you switch detectors when you switch heaters?
SPT That's all right. I don't need an
answer now. I'm just wondering. The reason that was re-
ported as filled was because it was left on 20 minutes and
the temperature reading never came off the peg. I noticed
on the list of anomalies that if the sections of that heater
are still good, and I wonder if there isn't a way that we
can determine whether it's still good or not. Such as going
up and turning it on for awhile.
CC Okay. Let's see if we can get an ans-
wer on that.
SPT Okay.
CC Okay. I guess we think we can do that.
But, we would like to wait a little later to try it. Also I have
there was an omission in the Commander's details for this
evening and in presleep, we would like for him to do house-
keeping C and 2. That's the fuel cell purge.
SPT Okay. C and 2. That's both hydrogen
and oxygen. (garble)
CC We had a momentary dropout on voice.
That's just oxygen.
CC Skylab, Houston. I have a couple of
messages here for you. Is everybody listening up?
CC Skylab, Houston. How do you read?
SPT Are you still there, Houston.
CC Roger. How do you read: We had a loss
of voice there I think.
SPT Yes, just for a minute. Well, the PLT is
shaving and the CDR went by and said "You've been a good boy
this week Paul, you can have the Command Module tonight."

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Time: 18:35 CDT 14:23:35 GMT

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CC Roger. Copy. Everybody listening up?

PLT Yeah.

CC Okay, I got a message I'd like to read up to you. It's to Skylab Commander Conrad. On behalf of the American people, I congratulate and commend you and your crew in your successful effort to repair the world's first true space station. In the two weeks since you left the Earth, you have more than fulfilled the profanity of your parting words. "We can fix anything." All of us have new courage now that man can work in space to control his environment and improve his circumstances and exert his will, even as he does on Earth. Signed, Richard Nixon.

CDR Then I'll thank you from all of us.

CC I have another one that's to Skylab Commander Conrad. My warmest personal congratulations to you and your crew. We're all proud of your team, the NASA team, and the whole aerospace team. I know I can speak for citizens everywhere when I offer you our heartfelt best wishes for the rest of your mission. Signed, Spiro T. Agnew.

CDR Well, thanks again.

CC And we're just about LOS. Guam will be coming up at 22.

CDR Roger.

CC And reminder. Guam is your medical conference.

PAO This is Skylab Control. Greenwich mean time 23 hours 45 minutes. We have had loss of signal over the Ascension tracking station. The previous pass highlighted by two congratulatory messages. One from President Richard Nixon, and the second from the Vice President Spiro T. Agnew. During this last pass the section 2 and section 3 of the orbital assembly solar array further deployed. Section 2 now stands at 79 percent deployed, section 3, 69 percent deployed. We will now switch to the NASA news room in building 1 for a change of shift briefing, with Flight Director Milt Windler. We'll hold the line - bring the line back up over Guam - no we won't either. We'll hold the line until the change of shift briefing is concluded. This is Skylab Control, 23 hours 46 minutes.

END OF TAPE

SL-11 MC-667/1

Time: 18:51 CDT 14:23:51 GMT

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PAO This is Skylab Control, Greenwich mean
time 23 hours 51 minutes. The previously scheduled change
of shift briefing with Flight Director Milt Windler has been
cancelled. There will be no change of shift briefing with
Flight Director Milt Windler. This is Skylab Control, Green-
wich mean time 23 hours 51 minutes.

END OF TAPE

SL-II MC-668/1

Time: 19:20 CDT 15:00:20 GMT
6/7/73

PAO This is Skylab Control. Greenwich mean time 00:20 minutes. We will have acquisition, a brief pass over the Guam Island tracking station shortly. This is the regularly scheduled medical conference between the crew and the flight surgeon. The flight surgeon on duty tonight is Dr. Charles Ross. We will have a summary of that conversation immediately following the pass. We'll hold the line up for that pass in the event the crew does talk with the Capcom, astronaut Hank Hartsfield.

PAO Skylab Control, Greenwich mean time 00:28 minutes. We've had loss of signal over the Guam Island tracking station. Flight Director Neil Hutchinson called attention to his flight controllers. We have a hundred percent on all sections of the solar panel number 1 deployed today by Commander Pete Conrad and Science Pilot Joseph Kerwin. If all PCGs, the power conditioning groups of the airlock module through which the power from the solar array is passed through, if all these PCGs come on line. We will have an additional 2,000 watts to the approximately 4,000 already being produced as a result of the Apollo telescope mount solar array, which was deployed on the first day of launch, and has been providing the necessary power since the crew arrived at the Skylab space station on May 25th. Next acquisition over Vanguard in 30 minutes. At Greenwich mean time 00:29 minutes, this is Skylab Control.

EBD OF TAPE

SL-II MC-669/1

Time: 19:57 CDT, 15:00:57 GMT
6/7/73

PAO This is Skylab Control, Greenwich mean
time 00:57 minutes. As Skylab approaches the Vanguard tracking
station on its 351st revolution of the Earth. We have Capcom
Hank Hartsfield scheduled to talk to the crew. We'll leave
the line up for any conversation.

CC Skylab, Houston. Through Vanguard 10-1/2
minutes.

SC (garble) would you believe that, all of
them.

CDR Yeah, but it's not like being (garble)

CC Roger, we concur. We're showing them all
three 100 percent, and we're starting to command you back to
solar inertial.

CDR Super-duper man (garble) charge up batteries
and batteries and all that sort of stuff.

CDR You there, Houston?

CC Roger, we're dropping in and out of comm
now.

PLT Okay, let me know when it's going to be
good for a while.

CC Okay, I think we got good comm now.

PLT Okay, Hank, on S009 I did not get a good
initiate on it, because that stinking thing is running wrong
again. And I should have remembered, but I didn't. I went to
RESET, left the power ON. As I'm sitting there, seconds before
I'm ready to do my big thing with it, it started opening, with
it in RESET. So I got a data point and if you want to send up
another RESET - reinitiate, I'll do it for you. It went fully
open, did not fully open at - let me see what I was supposed
to do it. I was supposed to start it at 23:06. It got fully open
at 23:12.

CC Roger, copy.

PLT That's 00:23:12.

CC Okay, what we'd like for you to do is close
the package, Paul, and try a RESET at 01:56:16.

CDR Okay, what did you say again? The time of
RESET, please Hank?

CC Roger, 01:56:16 and that's the initiate time.

CC And we'd like, of course, to get the package
closed at this time. And also, if I can get somebody up in
the STS, we've got a few switches we'd like to get reconfigured.
I think the easiest way is for me to just read them off, and
have you do them.

CDR Okay, we got somebody headed up that way
right now.

CDR Hank, if you've got a moment.

CC Go ahead.

SL-II MC-669/2

Time: 19:57 CDT 15:00:57 GMT

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CDR Why don't I give you all of the evening status report except for meals because we haven't yet, and we're going to in a minute. We didn't eat until about 20:30, so nobody is quite hungry yet. Well, let me give you the photo stuff for today.

CC

Go ahead.

CDR It's very little. We had no 16 millimeter. We had 35 millimeter, CI26 frame counts 31. CI34 frame counts 20. ZX06 on the 70 millimeter frame count is 40. Let me give you the (garble) status. A1 is transporter 02. With Charlie India, 05, 60 percent. Charlie India 01 is a take up A2, is 0 - -

END OF TAPE

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Time: 20:04 CDT 15:01:04 GMT

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CDR Give you a door status. A-1 is 3-1/4 02, with Charlie India 05; 60 percent. Charlie India 01 is a take up. A-2 is 03 is the transporter. Charlie India 06; 99 percent, Charlie India 03 is the take up. A-3 is 04. Charlie India 04; has 25 percent remaining on it. Mike Tango 01 is the take up. That reel is jammed and we've got no instructions on it. We'd like to clear it. A-4 has 05. PI 25; 100 percent. FTI on it, and that's the film for today. You know what the flight plan was. We're working 009. The stowage is per the checklist as far as we have gotten. We're still holding on completely re-configuring. We're also holding on powering up suit drying. Which we need to get an input on, and we'd like to get that on tonight if the bat situation looks good enough. And stowage is pretty much as it should be. I can't think of anything right now that we haven't either notified you about on B channel or that is out of configuration.

SPT And the SPTs ready for switches.

CC Roger. Copy. The first one's on panel 216, Joe. We'd like to get the VENT VALVE OFF, VENT HEATERS OFF, and the CONDENSATE TANK PRESSURE VALVE CLOSED. That's on your condensate tank there.

SPT In work.

SPT Okay.

CC Okay, on panel 203, under molecular cells, we'd like to get the SIEVE B fans to SECONDARY.

SPT It'll work.

SPT That's complete, and Henry, I should point out that the condensate tank switches were all in the called for position already.

CC Okay, thank you. These are just verifies, to know we're in the right mode. Okay, also on panel 203, we want to get the PRIMARY and SECONDARY COOLANT LOOP INVERTERS OFF - those two inverter switches off momentarily, and then to COMMAND.

SPT OFF and then COMMAND, on both of them.

CC And you'll probably get a C & W when you do that. Well, I guess maybe not, until we command them on.

SPT That's complete.

CC Okay, on panel 200, Joe, the RAD FLOW PRIMARY circuit breaker, we want CLOSED.

SPT RAD FLOW, FLOW PRIMARY.

CC And when you get that, back on panel 203, we'd like to get the RAD FLOW PRIMARY switch to COMMAND.

SPT Circuit breaker is CLOSED. RAD FLOW

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PRIMARY is to COMMAND.

CC Okay, that does it. Thank you very
much, Joe.

SPT And for your information the RAD FLOW
secondary breaker is open with the switch in normal.

CC Roger. Copy.

CC And for CDR, your film prep pad for
tomorrow is going to have your information on the jammed
transporter.

CDR Okay, very good. No sweat. And we are
on our way back to solar inertial. Is that what you're
telling me?

CC That is affirmative, and we plan to
crank up the suit dry as soon as we're back
in solar inertial and we'll tell you about that at Ascension.

CDR Okay. And I also assume that sometime
tonight we - you're gonna command all the AM stuff here on
the BAT and so forth? Hey, we'll be around for awhile.
We'll be glad to - Just so we kinda keep up with what's
going on.

CC Okay, we got them all on except PCGs
1 and 2 and we're gonna have an update for you on the power
system here, before you go to bed.

CDR Okay. And you got BAT A over on
REG BUS 1, huh?

CC That is affirmative.

CDR Okay. I'll be interested to see how
everything charges when we whip back into SI this pass.

CC Yeah, so will we.

CDR Okay. Now, therroretically with aft
to forward (garble), will that handle the whole workshop
load or not?

CC I guess at this point we're not exactly
sure how we're going to even out, in other words, we're
going to be even-steven with the ATM or I think possibly
we may still be transferring a little power from the ATM
side.

CDR Oh, really? You mean even if we fully
powered up.

CC That's right and we're about LOS now.
We should be getting Ascension here in a few minutes at 13.

CDR Okay, see you then. Bye-Bye.

PAO Skylab Control. Greenwich mean time
1 hour 11 minutes. As Skylab passed over Vanguard tracking
station, we anticipate acquisition of signal over Ascension
in approximately 2 minutes. During this pass Capcom Hank
Hartsfield was discussing with the crew the return to solar
inertial attitude. This is the fundamental flight attitude

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Time: 20:04 CDT 15:01:04 GMT
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for the Skylab vehicle. It's been on that 45 degree pitch-up attitude for the last several hours. This was placed in that attitude after the EVA, and it's returned to solar inertial attitude presently. Commander Conrad mentioned they haven't began their evening meal yet. They ate late because of the EVA and he said we're not quite hungry yet. Scheduled for the fare this evening for Commander Conrad is turkey with rice soup, prime ribs of beef, pineapple and orange drink. For Science Pilot Kerwin, he's scheduled to eat shrimp, prime ribs of beef, tomatoes, mashed potatoes, and butterscotch pudding. And Pilot Weitz is - has for his meal filet mignon, macaroni, tomatoes, and apple sauce with an orange drink. The crew was informed that the deployed orbital workshop solar array panel is producing power, presently displays on the ground indicate that the PCCs are producing approximately 900 watts of power into the vehicle. If everything goes well, the - we have air to ground now.

END OF TAPE

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CC Skylab, Houston. We're looking at the
Y 2 gyro. (garble) and RM is taking care of it. We're
still maneuvering back to SI, shouldn't take any action on
your part.

CC Skylab, Houston. How do you read?

PLT Not too bad.

CC Okay, I think we had a little comm
problem there for a minute. Did you copy my message on
the Y2 gyro?

PLT Yes, sir.

CC Okay.

CC CDR, Houston. When do you think you all
are going to get around to eating dinner?

CDR We're starting right now.

CC Okay.

CDR Tell the Surgeon not to worry. We will
get our circadian rhythm.

CC Roger, copy.

END OF TAPE

SL-UI MC-672/1

Time: 20:10 CDT 15:01:18 GMT

6/7/73

CC CDR, Houston. How do you feel about running that last ATM pass tonight? The synoptic?

CDR Yes, affirmative, okay, good. Go ahead.

CDR Okay, Henry, you still there?

CC Roger.

CDR We were instructed by the -- you're aware of the ATM panel configuration, right? We have not done anything to it since the EVA.

CC That's affirmative, and we're looking at that. We got to power it up according to that message you have there 13:17 Alpha, where a couple of little changes since we turned the X-ray spec down during the EVA. And I guess we're looking at the power situation and we think we can hack it.

PLT Okay. I don't know what 13:17 Alpha was, but that was the one that said put on page C-12? No, what did it say to do with the change - with the message. (garble) said somewhere, right? (Laughter)

CC Well, it's got the panel reconfiguration for unattended OPS after EVA. Really brings it all back up.

PLT Yeah, but I meant if (garble) some of the message I think. What did the message tell me to do with those changes?

CC Says put them as page Charlie 12 of your ATM experiment checklist and data book.

PLT That's what I wanted to know. That's where it is then. Okay, thank you.

CC And the only addition to that, Paul, is to bring the X-ray spec power up. And in addition to the switches it calls for in the checklist, you got to turn your photomultiplier ENABLE and ENABLE to image dissector.

PLT Okay.

CC We're about 30 seconds from LOS. We did not get the ATM thermal loop on, but you're clear to run this pass without the thermal loop. And we're all squared away in solar inertial. We should fix ourselves up when we get the Sun again. And Guam will be coming up at 37.

SPT Okay, what time did that pass start, Henry?

CC Okay, it starts about 8 minutes and 45 seconds from now.

SPT Okay.

CC And as a reminder, we commanded 82A OFF from the ground.

PLT Okay, what Joe meant was when did the ATM pass start?

SL-II MC-672/2

Time: 20:18 CDT 15:01:18 GMT

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CC It starts at 01:39.
PLT Okay.
PAO This is Skylab Control. As the Skylab
space station begins its 352nd revolution of the Earth,
we've lost signal at Ascension. Acquisition of signal will
again be over Guam, Guam Island tracking station in 32 minutes.
The crew is settling down to their evening meal, with one
more scheduled ATM pass for the evening with pilot Paul Weitz
serving time on the console, the C&D panel control and
display panel of the Apollo telescope mount. At Greenwich
mean time 1 hour 24 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-673/1

Time: 20:33 CDT 15:01:33 GMT
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PAO This is Skylab Control, Greenwich mean time 1 hour 32 minutes. As the spacecraft crosses the Mediterranean on its 352nd revolution, we have a summary of the medical conference which was conducted between Dr. Charles Koss, Skylab Flight Surgeon, and the crew over the previous Guam pass. The daily medical bulletin is as follows: The Skylab crew feels in good condition, following today's EVA. The Commander decided to perform his regular exercise protocol several hours after the EVA, since he felt that he did not receive lower extremity exercise. The EVA data which was received revealed that the science pilot, Dr. Joseph Kerwin worked for substantial periods of time in excess of 2,000 Btus per hour. He had a mean heart rate of 118 beats per minute. The Commander, Charles Conrad, had a peak work rate of 1780 Btus per hour, and a mean heartrate of 96 beats per minute. Next acquisition of signal will be over the Guam Island tracking station at 20 - in 23 minutes from now. At Greenwich mean time 1 hour 33 minutes, this is Skylab Control.

END OF TAPE

SI-11 MC-674/1

Time: 20:36 CDT 15:01:56 GMT

6/7/73

PAO This is Skylab Control. Greenwich mean time 1 hour 56 minutes. Acquisition of the Guam Island tracking station is expected momentarily with Capcom Hank Hartsfield. We'll hold the line up for conversation.

PLT Houston, Skylab. Are you there?

CC Roger. Go ahead.

PLT Okay. I'm at the ATM panel trying to (garble) two and power up and 6 and power up all at the same time. Your checklist didn't get me there, but I think I'm almost there. There's two anomalies, the XUV spec door talkback is white, and remains so, whether I hit the power door switch to open or shut. And the S054 door talkback is white, and I have no READY or OPERATE lights on the experiment. And I kind of thought I'd be able to get normal operating lights on the experiment now that we've pinned the door open. I'd like you to enlighten me on both of those.

CC Roger.

CC Okay, let me get with you guys then on a problem we've been watching here, which is the secondary coolant loop. The thing got very cool during your operations and we can't seem to get the devil warmed back up and if it doesn't get back up over the switchover limit, we may be in a little trouble. What we're trying to do now is to - What we're going to do is turn the loop completely off and let the cold flex absorb a little heat. Try a thermal shock, see if we can get the temperature up above the switchover limit. As you know, the primary loops we can't use because of the stuck valve that we told you about earlier. What we're looking into now is what critical items that are on the loop that maybe we can turn off tonight so that we don't have to be waking you up, and then we can handle the situation by commands.

PLT Okay, understand.

CC And if for some reason or other we lose our command capability and don't get it turned back on at Canary's or somewhere, we're gonna turn it off now. We'd like for you to go back up and turn on the inverter 3 secondary loop.

PLT I didn't understand that last one, Hank. You want us to do that in any case or just yet.

CC Okay, if we do not tell you prior to LOS here at Guam that we have turned the loop back on, we would like you to do it at LOS, on inverter 3.

PLT (garble) 3 Charlie, right?

CC That's affirmative.

PLT Okay.

CC Skylab, for info, we're reconfiguring

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the GYROS right now for sleep.

PLT

Roger.

CDR

Hey, how does CBRM 5 look to you, Hank?

END OF TAPE

SL-11 MC-674/2

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the GYROS right now for sleep.

PLT

Roger.

CDR

Hey, how does CBRM 5 look to you, Hank?

END OF TAPE

SL-IMC-675/1

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CC Okay, that does look a little low to us, but we think it's still okay. We just got back into solar inertial.

CDR I got a BAT charge indication on that one?

CC Say again.

CDR I got a barber pole BAT charge on that one.

CC EGIL says it ought to go away here pretty soon.

CDR Okay, I'll watch it.

CC PLT or CDR, either one of you available to conference some startracker information?

SPT You bet, like to.

CC Okay. If we got the bird locked on the Sun here, we gotta bring the startracker up and the gimble angles are outer 1600, inner 0068. Now, when you bring that up, if you don't acquire the star, we're gonna have to do a little search here. And we keep the inner gimble constant at plus 0068, and swing the outer gimble at steps of 200 arc minutes of 1600 through 2600.

SPT Okay, Hank, we've been doing that for two weeks.

CC Okay, you know how to do it then, and starrise is at 148 and starset's at 252.

SPT I assume it's (garble) and the gimble angles you gave me were plus. Is that right?

CC That is affirmative.

SPT Have you guys looked at the 82A doors, or - both of them indicate open?

CC Okay, on the 82A, we commanded that off today, Joe. So what's gonna happen there, you're going to have to take the power off and then back on again to cycle the pulser.

SPT (garble) I wish you people would tell me what configuration we're in. How about 54?

CC We lost our command capability, Joe. We're gonna have to have somebody bring that coolant loop up.

SPT You got a preferred time?

CC Inverter 3 pump Charlie and we're about 15 seconds from LOS. We'll be coming up on Vanguard at 37.

SPT What time do you want it on? Right now?

CC That's affirmative.

SPT Okay.

PAO This is Skylab Control, Greenwich mean time 2 hours 8 minutes. On the previous pass over the Guam tracking station, Capcom Hank Hartsfield explained to the crew what steps could be taken to correct the anomaly in the

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coolant loop on board the spacecraft. The primary coolant loop has a stuck valve as reported earlier this evening, and the crew was asked to turn off the secondary coolant loop for a few minutes, and just as we lost signal at the Guam station, the crew was asked to turn it back on. Flight controllers will continue to look at the coolant loop here on the ground. And we have next acquisition at Vanguard in 27 minutes.

END OF TAPE

SL-II MC-676/1

Time: 21:33 CDT 15:02:33 GMT
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PAO This is Skylab Control, Greenwich mean time 2 hours 33 minutes. Anticipated acquisition over the Vanguard tracking station. The problem with the coolant loop aboard the spacecraft airlock module coolant loop, which has been discussed for the last several hours, between Capcom and the Skylab crew. The problem simply - the primary loop has a stuck valve in the cold position. The secondary coolant loop has just basically gotten too cold as a result of the power down phase of the mission during the EVA system power down many instruments, many critical items were turned off to conserve power and as a result the coolant loop system got too cold. For the last pass an attempt was made to turn off - the secondary coolant loop was turned off in order to try to warm it up and give it a shock to get the system back on line. However, this was determined on ground looking at telemetry that this would not solve the problem. So the situation is now, that the ground is looking at turning critical items off, that are cooled by the coolant loop. Such critical items as transmitters, tape recorders, and the airlock module. This is being done to protect the loop in case of a failure, these instruments would not be damaged or overheated. The decision has been made to fly throughout the night in this position, leaving the secondary coolant loop on, and turning off the critical items that would be damaged in the event the coolant loop did have a failure. So, this is the information that will be passed up to the crew on the Vanguard pass. We'll hold the line open for that pass.

CC Skylab, Houston, through Vanguard, 10 minutes.

SPT Houston, SPT.

CC Go ahead.

SPT Roger. I put a number of comments on channel B about this ATM pass, one I'd like to reiterate to you the pass on is that we need up here as soon as possible, on the teleprinter, new pads, or rather new cue cards formats for power-down for unattended, dark side prep, Sunside prep, power-down operate next pass, for new configuration, and we really don't know where we are.

CC Roger, copy.

SPT Thank you.

CC For infor, we're going to be commanding the AM APS side of the house to configure that.

SPT Roger.

CC Okay, and also, on this thermal problem, we - the thermal shotgun we played while ago didn't work, and the actions we're going to take, is we're going to turn

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off all this redundant gear that we had on, and trying to warm up the loop, we're going to run with a single loop tonight, with no switchover ENABLED. We've taken the critical, we will take the critical equipment off the line, we'll be safe if we do have a loop failure, the ground will pick it up and command a new inverter, and pump on the line.

SPT Okay.

CDR We need to go back to COMMAND right, Hank?

CC That should already be accomplished, Pete.

CDR Talleyho.

CC Okay, I guess when you put that inverter

on while ago, maybe we ought to verify that you did go back to COMMAND after you did it.

CDR No, we didn't, you didn't tell us to.

We'll go back to it now.

CC Okay, thank you. Sorry about that. In

regard to your evening status report, why don't you go ahead and put the rest of it on channel B, the food part.

CDR Okay, the CDR ate everything, and he's probably going to get into the butter cookies in a minute, so put me down for two butter cookies. And the rest of the guys get - put it on B channel, because we don't have it now.

CC Okay, and for info, we're dumping the tape recorder at this site, so you ought to hold up on that until LOS.

CDR Okay, I put you back in COMMAND on secondary - -

END OF TAPE

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CDR Okay, I put you back in command on
secondary. You're in command on primary.
CC Thank you, sir.
CDR I said you are in command in both primary
and secondary now.
CC Roger, copy. Thank you.
CC We'll be commanding up the secondary loop
here, and you may get a caution and warning.
CDR Okay, why don't you get the AM Buses
configured. Why don't you get the beer on the line seems to me
we've just gotten extremely cold in the MBA. It's got to be about
55 up there.
CC Okay, we'll take a look at it.
CC Skylab for info, we'd like flight a night
with the TACS ENABLED. Til we get this momentum squared
away. It looks like - every time we take this thing and
hold it out attitude for awhile out of solar inertia we have
a problem getting squared away.
SPT It is ENABLED, isn't it Hank?
CC Roger, this is just info. We want - we
want to say we didn't want to fly that way tonight.
SPT Okay. Good show.
CC Skylab, Houston, do we have somebody up in
the AMDA now?
SPT PLT will be there shortly for you.
CC All righty.
PLT Go ahead.
CC Okay. on - on the Panel 205 I believe
it is there the reg adjust. We'd like to get the reg adjust
bus 1, CLOCKWISE until PCG total 1 equals total 2 and that
complete our reconfiguration of PCGs 1 through 4 on REG BUS
1 and 5 to 8 on REG BUS 2.
PLT Hey, that sounds great. Holy mackril you
have a nominal four for a discharge limit. Why you leaving
the discharge limit inhibited, just in case you really need
them, tonight yet?
CC We're just waiting til we get everything
folded back up and we need about three things that were on
the ATM panel to finish - to close out of that for a unattended.
PLT Go ahead.
CC Okay, S054 we need to get the exposure
range to 256.
PLT Okay.
CC S056 main power on?
PLT What do you want, oh. You want the XRA
power off?
CC S056 main power ON. And we need the H
AMP AUTO SWITCH to OFF and that does it for tonight and we're

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Time: 21:40 CMT, 15:02:40 GMT

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almost LOS and we'll begin coming up on Canary at 57.

CDR I don't understand S056 main power, you mean the high voltage power on the - -

PAO This Skylab Control, Greenwich mean time 2 hours 47 minutes with loss of signal at the Vanguard tracking station. The crew will probably be bid good night at the Ascension tracking station in approximately 9 minutes. Discussions again were between the crew and the ground we're aimed at the primary and secondary coolant loop problem. Decision has been made to turn off redundant equipment which had been turned on to warm up the secondary coolant loop. They've - critical items on that coolant loop have been taken off line for the night. The decision has been made to fly with the system for the night and if there is a failure in the system, the ground can command new inverters and pumps on from the ground. The crew is - as we say should say good night in - at Canary in 8 minutes. We'll bring the line up at that time for final reports from mission control center at Greenwich mean time 2 hours 48 minutes this is Skylab Control.

END OF TAPE

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Time: 21:T 15:02:56 GHT
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PAO This is Skylab Control. Greenwich mean time 2 hours 56 minutes. We will have a Canary and a Madrid pass back to back for a total probably of about 18 to 19 minutes. We'll leave the line up for conversations between Capcom Hank Hartsfield and the crew.

CC Skylab, Houston, through Canary and Madrid, 14 minutes.

SPT Fourteen minutes. Wow.

CC And I got to apologize to you, Paul, I allowed myself to pass you some bad switch nomenclature awhile ago. On S056 it was the camera power we wanted off. And on H Alpha 1, we wanted H Alpha auto switch to OFF.

SPT Okay, we finally figured it had to be the camera power switch. You should see that on. And the H Alpha 1, the exposure switch or whatever you want to call it, the auto switch is now OFF.

CC Roger. Copy. Thank you.

SPT And then we wonder when we can put the auto switch off, now that we're back in GBA auto door ENABLE.

CC The night interlock is still in override.

SPT Well, let's take it out.

CC If you want to do that -

SPT That's what I mean by needing a new

checklist.

CC Roger. We concur and we're gonna have to build you something.

CDR Yeah, but Hank, do me a favor, have these guys do it and work on it, and practice with it in the simulator, and work on it, and don't send us one til it's the right one.

CC Roger, that.

CDR All we got is 8 billion yards of bits and pieces of ATM stuff written all over everything, including the wall.

END OF TAPE

SL-II MC-679/1

Time: 22:04 CDT 15:03:04 GMT

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CC Skylab, Houston. We're about 1 minute from LOS. The ATMDC is taking care of the momentum. There's a very remote possibility that we might get an anomaly nominal H-cage on the next dump. However, if that doesn't occur you ought to be good for the night, and how would you like to wake up in the morning?

CDR Okay, and what is (garble) time.

CC We have Bermuda at 11:00.

CDR Let's hear from you then. Thank you very much Hank, we'll see you in the morning.

CC Okay, you want a call at Bermuda.

CDR Yes, please.

CC Okay, will do. You guys get a good night's rest. You've earned it.

CDR Thank you.

SPT Good night, Houston.

CC And EGIL thanks you for the power.

CDR You're welcome, you're welcome.

CDR Oh, hey, Hank. Are you there?

CC Roger.

CDR Okay, I'm sorry. I had corn scheduled in my menu today, and I made the scheduled substitution, which was German potato salad.

CC Roger. Copy.

CDR Thank you.

PAO This is Skylab Control. Greenwich mean time 3 hours 12 minutes, with loss of signal over Madrid. The crew was bid good night for the evening. And they are scheduled to sleep in the orbital workshop sleep compartments. Their 10th night sleeping in the workshop. Tomorrow, Friday, is June 8th, it will be the 15th day of the mission. The crew is starting their second full week in the workshop. Experiment-wise they are scheduled to do the M092, lower body negative pressure device, and 171, metabolic analyzer. Subject to those experiments will be Pilot Paul Weitz. Also scheduled for today are several hours of manned operation of the Apollo telescope mount. At Greenwich mean time 3 hours and 13 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-680/1

Time: 22:34 GMT, 15:03:34 GMT

6/7/73

PAO This is Skylab Control, Greenwich mean time 3 hours 34 minutes. We have acquisition tentatively at the Guam tracking station for 3 minutes if the crew is still up and about we will more than likely hear from them. To recap the coolant loop discussions which have been going on for the last several hours here at the Mission Control Center; the - refers to the airlock module coolant loop. The coolant loop is an active thermal coolant from - which removes and dissipates waste heat which is due to the operation in the cluster equipment and metabolic heat loss. Active cooling is provided to EVA - extravehicular activity - the intravehicular activity - IVA - intravehicular suit cooling module condensing heat exchangers, cabin heat exchangers, three tape recorder cold plates, oxygen heat exchanger, the Apollo telescope mount control and display panel heat exchanger, battery modules and six electronic modules. There are two loops on board, primary and secondary. The primary loop which reportedly has a open valve in the cold situation; the secondary loop due to the fact that the vehicle was powered down for a great length of time during EVA exercises this afternoon. The vehicle being powered down, no heat was generated in the spacecraft therefore the systems - the coolant loop itself got too cold. The temperatures have been rising slightly in the secondary coolant loop in the last couple of passes. The ground has turned off the critical items aboard the spacecraft so if the pumps fail in secondary coolant loop; that critical equipment would not be damaged. We'll leave the line up now for any possible conversation between CAPCOM Hank Hartsfield and the crew of Skylab.

CC SPT, Houston?

CC Skylab, Houston?

CDR Go ahead, Houston.

CC Hey, sorry to bother you guys but this

coolant loop is getting away from us and we're going to have to do something with it, it's down two - two degrees freezing now and we're going to have to get you up and working so we can get the thing warmed up. Looks like it may do is freeze up the condensing heat exchanger and that in a powerful situation. We'd like for you to get the AM circ fans on and bring up the ATMC&D coolant loop and our plan is which we're hoped to have for you by Canary is we're going to hook up an LSU to one of the SUS outlets to PCU then use that LCG adapter we have and hook up an LCG and get it down in the hot part of the workshop there, somewhere - maybe near one of the water tanks and see if we can't start warming up this coolant loop.

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CDR Okay. We'll begin. We'll work right now.
SPT AM coolant loop, the circ fans and the
ATM coolant loop.

CC That's affirmative. Sorry to do this do
you guys. We're going to let you sleep late in the morning.

CDR No, we want to keep the show running, pal.
don't worry about that.

CC Houston. We want you to use SUS 2 on this
LSU hookup; we'd like you to get the whole thing connected
up and if possible delay the Canarys to turn it on. You'll
have to use that special adapter to hook up the LCG to the
PCU and we want the diverter valve to set to position 5, we
haven't found the stowage location yet for those adapters.

CDR We're working at it.

CC Okay, I have - FAO says there in 920
center sleep compartment and we want you to hook up two of
them if possible - two LCGs and we're about LOS now and will
be coming up on Canarys in 36.

PAO This is Skylab Control, Greenwich mean
time 3 hours 52 minutes. The crew was alerted over the
Honeysuckle Station to - to go through procedures and attempt
to bring up the temperature in the secondary coolant loop
which at present is 2 degrees below freezing. The plan is
to take a LCG - liquid cooling garment and attach it to the
coolant loop system in an attempt to raise the temperature.
In effect what the LCG would be serving as would be a heat
exchanger. The procedures will be worked up and passed up
to the crew on the Canary pass and the efforts to correct
the coolant loop problem will not be attempted until the
Skylab Space Station has acquisitioned a single - signal
at Canary in 42 minutes and 47 seconds from now. Greenwich
mean time 3 hours 53 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-681/1

Time: 23:30 CDT 15:04:29 GMT
6/7/73

PAO This is Skylab Control, Greenwich mean time 4 hours 29 minutes, with acquisition at Canary Island scheduled in approximately 6 minutes. Flight Director Neil Hutchinson and his team of silver flight controllers have been working for the last hour on procedures to pass up to the crew over the Canary Island station on a troubleshooting to solve the overly cold water coolant system for the coolant loop. Plan - tentative plan now is to take the liquid cooled garment, which is the undergarment that the astronauts wear next to their skin during EVA. This garment has got plastic tubes in it to which liquid is passed to keep the astronauts cool during EVA. The liquid cooled garment will be placed on the wall of the dome area of the workshop behind a water tank. One of the ten water tanks aboard the spacecraft. The water tanks are hot, a portable fan will be placed next to the garment to blow over the garment to make it hot laying over the water tanks. The garment will be hooked up to the coolant loop which is a normal operation during EVA exercises. The coolant loop provides support to the extravehicular activities of the astronauts. As the garment gets warm, the liquid in the garment will get hot, and that will in turn be pumped through the coolant loop in an attempt to raise the temperature of the coolant loop, to bring it back within tolerance. At last analysis the temperature was two degrees below zero. And this procedure hopefully will return the coolant loop to a satisfactory temperature where the crew can close up and go back to sleep for the night. Canary, we will have acquisition at Canary Island in 4 minutes from now. We will bring the line back at that time. Greenwich mean time 4 hours 31 minutes, this is Skylab Control.

END OF TAPE

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Time: 23:35 CDT, 15:04:34 GMT
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couple of you could go now, if you like. And we'll try to determine whether this is going to be a permanent situation or whether it's temporary. In any event, we're out of the woods right now on the immediate problem.

SC Okay, we'll see you at Carnarvon.

CC PCG 4 looks okay to us, Pete.

SC Roger.

PAO Skylab Control; Greenwich mean time 4 hours 49 minutes with loss of signal over Madrid. The procedures passed up to the crew were implemented. Placement of the LCG, liquid cooling garment, was placed near the hot water tank aboard the vehicle. And the pumps were turned on, and the temperature in the coolant loop went up approximately 10 degrees in the short span of one pass over Madrid. The crew is being instructed to get ready to bed down for the night. We're going to keep this system going for the next pass over Carnarvon in 24 minutes. The problem seems to be solved at this time. At Greenwich mean time 4 hours 50 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-683/1

Time: 0003 CDT, 13:05:03 GMT

6/8/73

PAO This is Skylab Control, Greenwich mean time 5 hours 3 minutes. The spacecraft is on its 354 revolution crossing over the country of India. The apparent problem in the coolant loop, the airlock module coolant loop, has been solved by a jury rigged method of attaching the liquid cooled garment near the hot water tank in the orbital workshop dome, and hooking the liquid cooled garment to the coolant loop system, thereby running hot water through the system and thereby raising the temperatures which were becoming a problem. The temperature had dropped to 2 degrees below freezing. The airlock module coolant loop is an active thermal coolant loop which removes and dissipates waste heat in the airlock module, due to the cluster equipment and operation and metabolic heat loss. The cooling - the coolant loop provides support to the extra vehicular activity system, the inter-vehicular suit activity, condensing heat exchangers, cabin heat exchangers, the tape recorders, cold plates, oxygen heat exchangers, the Apollo telescope mount control and display panel heat exchanger, battery modules and 6 electronic modules. The problem first arose at approximately 19:36 GMT after the EVA. The problem was apparently caused, due to the fact that the vehicle was almost totally powered down for the EVA. When the vehicle is powered down there is no heat being produced inside the vehicle, therefore the coolant loop system became extra cold. After the crew was bedded down for the evening at 10:00 p.m. central daylight time, within 45 minutes later, the crew was awakened and advised of procedure necessary to make adjustments to the coolant loop system. When the spacecraft passed over Honeysuckle on the last revolution at 03:47 GMT, the crew was advised of the systems necessary to repair, make modifications to the coolant loop. When the spacecraft passed over Canary Island station at GMT 04:36 these procedures were initiated and within a few moments the temperatures in the coolant loop system rose from 2 degrees below freezing, rose approximately 10 degrees bringing the system back to nominal. The coolant loop is still being operated with the liquid cooled garment until the Skylab crosses over Carnarvon in approximately 8 minutes. Further instructions will be passed to the crew as to whether that will be the extent of the operation and the crew can return to bed for the evening. At Greenwich mean time 5 hours 6 minutes, this is Skylab Control.

END OF TAPE

SI-II MC684/1

Time: 00:14 CDT, 15:05:14 GMT
6/8/73

PAO This is Skylab Control; Greenwich mean time 5 hours 21 minutes. There was a mechanical mixup in the soundroom. There was 2 minutes which we recorded on VOX tape at the beginning of this pass. We'll play that now and pick up any additional air to ground conversation between CAP COM Hank Hartsfield and the crew. We'll play that tape now.

CC Skylab, Houston; through Carnarvon at Honeysuckle for about 14 minutes.

SC Roger. How are you.

CC Okay. I guess we made a decision here. What we're going to do is leave this thing latched up like it is. I think we're out of the woods right now on it for the time being anyhow. And we're going to work on a plan to get ourselves squared away for the rest of the mission. Before you guys go to bed, however, we'd like to know how we're going to handle tomorrow. Our plans are now, tentative with your concurrences, to get you up about 13:00 about 2 hours late and we'd like to know how much cleanup time you want in the plan tomorrow and where you want it.

CC And that cleanup will probably include tying down this thing we just built up here with the FCG.

SC Well, Hank I tell you I better spread it out (squeal) couple of hours (squeal).

CC Okay. I had an awful lot of feedback there, Pete. I understand you want about a couple of hours a guy - is that correct?

SC Wait until we get the squeal out of it, Hank.

CC Okay, that sounds pretty good.

SC Okay. Couple hours would be fine or if you can't make it that way, you know, spread a little in tomorrow and a little the next day and we'd like to keep as much on the experiments as possible. It won't take us more than 20 minutes to cleanup -

SC We put it together in an awful lot of a hurry.

CC Roger, understand and one other little item for you here is one of our computer predictions says we may get a nominal H-cage on the next dump. One of them says we're not.

SC I understand that TACS is right down by our head. I'm sure we'll find out one way or another whether we got it or not? I'm kinda sitting here sight seeing right at the moment. We've got a beautiful swing down over Sumatra and Borneo. That light is - we're just approaching the Australian coast line ready for the pass over Australia. Read, Houston?

SL-II MC684/2

Time: 00:14 CDT, 15:05:14 GMT
6/8/73

CC Roger, we copy and I guess if - we're satisfied with the likes of it right now and if you are we'll let you go to bed. Do you want a call in the morning. We've got a pass at Ascension at 13:00.

SC Yeah, why don't you do that. I suspect we'll wake up before that, Hank. We usually do and we'll give you a holler. And if you haven't heard from us by 13:00 why just go ahead and give us a holler. And all my good buddies down there in the Carnarvon Tracking Station when they get off duty tonight they ought to all go and have a quiet lager beer for me.

CC Roger, copy. I appreciate you guys taking care of this super fast and sorry we had to do that to you. I hope you get a good nights' rest and we'll talk to you tomorrow.

SC Okay. Nighty night.

PAO LOS. This is Skylab Control; Greenwich mean time 5 hours 32 minutes with loss of signal over the Honeysuckle Tracking Station as the spacecraft rears the end of the 355th revolution. The crew has been bid good night for the second time after troubleshooting the coolant loop problem. The ground has told them to leave it up the way it was with the liquid cooled garment hooked up to a hot water tank, laid over a hot water tank, and then the liquid cooled garment hooked to the coolant loop which, as a result, raised the temperature in the coolant loop to nominal operation temperatures. The crew has been given the green light for two extra hours sleep in the morning. Scheduled arising time now is 8 a.m. central daylight time. This concludes the reports from the Mission Control Center from the Public Affairs Console. Next report will be at wakeup time, 8 a.m. central daylight time, Friday, June 8. At Greenwich mean time 5 hours 33 minutes this is Skylab Control.

END OF TAPE

SL-II MC-685/1

Time: 01:23 CDT, 15:06:25 GMT
6/8/73

PAO This is Skylab Control at 6 hours 25 minutes Greenwich mean time. At the present time the process of handover is taking place at Mission Control. Flight Director Neil Hutchinson, who is off-going, is handing over to Charles Lewis, the on-coming flight director. We expect a change-of-shift briefing to take place at approximately 35 minutes after 1:00 o'clock central daylight time. To repeat, that's 1:35 central daylight time. Flight Director Neil Hutchinson and his electrical, general instrumentation, and life support systems engineer, the EGIL, will be there to answer questions on the suit umbilical system problem that occurred tonight, the coolant loop problem, and also to discuss the electrical power generation on Skylab. This is Skylab Control at 25 minutes and 50 seconds after the hour.

END OF TAPE

SI-II MC-686/1

Time: 01:41 CDT, 15:06:41 GMT
6/8/73

PAO This is Skylab Control at 6 hours 41 minutes and 15 seconds Greenwich mean time. At the present time Flight Director, Neil Hutchinson, is completing his turnover to Charles Lewis. He informs me there will be about a 10-minute additional delay before the press conference can begin. That would put the press conference at approximately 5 minutes before 2:00 o'clock central daylight time. We've got some additional information from the off-going EGIL, Steve McLendon, who also will be available at the press conference on the details of the temperature control problem experienced today by the crew. The problem began during the beginning of the EVA, when a switch was turned to the EVA position on the primary coolant loop. The switch was enabled to EVA position in order to run coolant liquid through the suit system, through the liquid cooled garment that cools the astronauts while they're working within their suits. In that EVA position, as soon as they made the switch they received a caution and warning light, which signaled low temperature. It's believed that when they made that switch, that a slug of cold material, Coolanol, the coolant material that runs through the coolant loops came from the radiators and went into that bypass vent into the valve that operates the cooling operation. It's called the temperature control valve-B, TCVB, Temperature Control Valve-B. Temperature Control Valve-B may have been thermally shocked by that cold material coming out of the radiators of the spacecraft. The radiators being at very cold temperatures, and that is where the heat is exchanged and dumped into space. It's quite possible that that temperature control valve was shocked into the cold position so that only cold material would run through it. And it would continue to put all of the material in the Coolanol System out to the radiator to cool it down. As soon as that happened they instructed the crew to go back out of the EVA position. When they did that they received a high pitch whine on one of the coolant pumps. And because of the high-pitch whine they thought there may be some danger of that pump going out. They weren't really certain what was the problem. And they still are not. They switched back to the EVA position on the primary coolant loop and at that time switched to the secondary coolant loop and shutdown the primary loop. So that primary loop which became very cold at that time, because of the stuck valve, is still at a rather moderate temperature. There's not any danger from it. And they will tomorrow morning attempt to free that stuck valve. They don't consider that to be much of a problem. The way it will be - probably be freed is by bypassing the radiator. They have a control that allows them to telemeter up signals to bypass the radiator system on the primary coolant loop. When they bypass that radiator system,

SL-II MC-686/2

Time: 01:41 CDT, 15:06:41 GMT

6/8/73

they will only flow the coolant loop around the spacecraft. And that will continually warm up. They feel that once the temperatures have come up enough in the coolant loop, it is at a moderate temperature right now. It is in fact above the temperature of the secondary coolant loop. Once the temperatures have come up and are brought to a sufficient level, that temperature control valve-B will be freed again, and it will start operating, and again control the temperatures properly, flowing some of the material out to the radiators but not excessive amounts. So the problem began during the EVA on the primary coolant loop. It has been shutdown since the beginning of the EVA and it has not been operating. It is still capable of operating properly once that temperature control valve is freed. Temperature Control Valve-B is the main control for the electronic systems temperature. It's the means of regulating the amount of coolant that flows out to the radiators. The temperature problem is now considered pretty much solved, or at least for the overnight period. They have the liquid cooled garment, that's the space suit cooling apparatus attached to the suit coolant loop. That's part of the coolant system. This is essentially in the EVA mode on that secondary coolant loop. And as long as that's attached it is bringing up the temperatures. The temperatures are coming up now well in the safe range. And they're well above any danger of freezing. So the problem is considered to be solved with this fix. And they don't expect it to be an additional problem. The problem on the secondary coolant loop, as should be explained, was brought about because of the coolant loop. The primary coolant loop had brought about very cold temperatures. The secondary coolant loop and the primary coolant are very closely intertwined with each other. And the cold temperatures on the primary loop brought down the temperatures on the secondary loop during the EVA. So that, in fact, the secondary loop has no fails in it. It's operating properly. But the cold temperatures in the primary loop had brought down the temperatures in that secondary loop. They have now brought those back up within safe limits and it's assumed that they will operate within safe limits now after the evening. Once we've gotten them up to a high enough level, they should continue to operate at that level with out any additional fixing. So, tomorrow there will be an attempt to solve the problem on the primary loop by bypassing the radiators - bypassing the cold part of the system, and allowing it to heat up naturally from the electronics temperatures. The solar array which is now fully deployed on the Orbital Workshop is producing energy at high levels of the actual output of energy from the solar panel. There will be additional explanation for this necessary. But the output from the solar panel indicated

SL-II MC-586/3

Time: 01:41 CDT, 15:06:41 GMT
6/8/73

8000 watts and above, which is well within the range of its normal output. Now that energy is put into the batteries, they are drawing a regular power from the batteries of about 1700 watts. That's below their capability. For safety reasons they felt that it would be desirable to keep them down. They did have problems earlier on drawing too much power from ATM batteries and lost a battery because of that, or nearly lost a series of batteries because of that. So they are not drawing the full capability of those batteries. They are able right now to draw 1700 watts on a regular basis, both in darkness and in daylight, from the 8 large batteries in the orbital workshop. These are separate from the Apollo telescope mount solar array batteries, of which there are 18, 2-1/2 of them not working properly. That 1700 watts is below what they'll be drawing tomorrow. They expect to crank it up and draw 2500 watts out of it tomorrow. They're moving slowly but surely up to the maximum normal capability of those batteries, which is about 3000 watts. So at the present time they do get 1700 watts regularly from the batteries, something in excess of 8000 watts being produced by the solar array and being put into the batteries during the charging periods. So 1700 watts of output from the orbital workshop, in addition to something over 4000 watts out of the ATM. And they will tomorrow go up to 2500 watts in the orbital workshop and they have a maximum capability of 3000 watts, which will undoubtedly be brought up in future days. The power system looks excellent right now. The temperature problem is no longer a difficulty. We will be having a change of shift briefing in approximately 8 minutes at building 1, Johnson Space Center. That will include both the EGIL, the electrical general instrumentation and life support system engineer who is in charge of both electrical and coolant system problems. And it will include Neil Hutchinson, the off-going flight director. This is Skylab Control at 48 minutes and 12 seconds after the hour.

END OF TAPE

SL-II MC-687/1

Time: 01:59 CDT, 15:06:59 GMT
6/8/73

PAO - - shortage, and that is going on.
PAO This is Skylab Control at 6 hours 59 minutes and 35 seconds Greenwich mean time. At the present time Neil Hutchinson, the flight director, and Steve McLandon, the EGIL, on the off-going shift, are on their way to the Building 1 Briefing Room. There will be a press conference held shortly in Building 1, approximately 5 minutes from now. The crew will be waking up late tomorrow morning. They will be allowed to sleep in for an extended period of time to make up for the time they lost tonight because of the coolant problem. And so we will not have commentary as early in the morning as normal. This is Skylab Control at 6 seconds after the hour.

END OF TAPE

SL-11 MC688/1

Time: 05:59 CDT, 15:10:59 GMT
6/8/73

PAO

This is Skylab Control at 10 hours Greenwich mean time, here in Mission Control, correction 11 hours Greenwich mean time. And in Mission Control we're in the process of beginning a shift handover. Flight Director Chuck Lewis and the team that's been on during the night preparing to handover to the team headed by Flight Director Hilton Windler. The actual change is to occur at about 8 a.m. which is also the time that the crew is scheduled to be awakened this morning if we haven't heard from them first. The flight surgeon reports the crew got to sleep last night - actually early this morning at 12:30 and the decision has been made and was made last night to allow them to sleep essentially a full 8 hours with wakeup at 8 o'clock a.m. or 13:00 Greenwich. The thermal situation is stable at the present time. In the spacecraft the orbital workshop operating on the secondary coolant loop after the primary loop was switched out after a valve stuck OPEN flowing the full coolant load through the radiators and dropping the loop temperatures below acceptable limits. The secondary loop has remained stable during the night. Temperatures cycling between about 36 and 38 degrees Fahrenheit. This is cooler than desirable but is not considered critical at the moment. Major activities, scheduled in the Flight Plan during today, are the S073 Gegendstein/Zodiacal Light Experiment which is scheduled to be performed by Commander Pete Conrad. Science Pilot Joe Kerwin and Pilot Paul Weitz will be performing the Lower Body Negative Pressure and M171 experiments, both medical experiments. The M171 titled Metabolic Activity using the bicycle ergometer. At the present time we are in stateside acquisition, receiving telemetry data from the spacecraft through the Merritt Island Ground Station. And we have about 4-1/2 minutes remaining in that acquisition before losing radio contact again. This is Skylab Control at 11 hours 3 minutes.

END OF TAPE

SL-II MC-689/1

Time: 07:00 CDT, 15:12:00 GMT
6/8/73

PAO This is Skylab Control at 12 hours Greenwich mean time. Now about 1 hour away from the scheduled crew awakening time. Crew to be awakened at 8 a.m. central if we haven't heard from them prior to that time. They have been allowed to sleep in this morning after problems with the coolant loops on the workshop last night that kept them up until about 12:30. The coolant situation this morning is stable, situation has remained unchanged since our last report. We're operating on the secondary coolant loop and it's stable, temperature around 36 to 38 degrees, which Flight Director Chuck Lewis reported is acceptable, this is lower than desired, however. A short while ago the Flight Director requested all Flight Controllers to consider the availability now of additional electrical power and to get together the plans for things they would like to resume, activities that previously were curtailed, that they would now recommend resuming in light of the additional reserves of electrical power. The solar wing on the workshop which was deployed yesterday, is now putting out about 3000 watts of electrical power, which is about what we would expect for a single normally nominally functioning solar wing. At the present time Skylab is in radio acquisition through the tracking station at Honeysuckle Creek, Australia. We have about 3 minutes before we lose radio contact, and in another 10 minutes we'll be reacquiring at Hawaii. During this period of the day we have maximum contact through the ground tracking stations, maximum duration of stateside passes and that acquisition time gradually decreases through the day. The peak acquisition occurring early in the day as we're seeing now. There is no television scheduled to be brought into Houston, today. The preliminary flight plan for tomorrow shows the possibility of performing TV on M092, the lower body negative pressure. We're in the process of a shift hand over and that will begin in earnest during the next hour. We'll see a large number of flight controllers drifting into the control center ready to be debriefed on the nights activities, and to pick up the load for the day. Flight Director, as I mentioned, on this shift is Chuck Lewis, he'll be relieved by Milt Windler. And our CAP COM is astronaut Richard Truly, who is being relieved, it appears by the astronaut Bruce McCandless. Also we see astronaut Robert Crippen in the control center at the CAP COM console. At 12 hours 3 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 KC-690/1

Time: 07:26 CDT, 15:12:26 GMT
6/8/73

PAO This is Skylab Control; at 12 hours 26 minutes. We'll be reacquiring Skylab over the continental United States, in less than a minute. We don't expect to hear anything from the crew, and we don't expect to put in a call to them. However, as we approach the wake up time, we prefer to stand by live for any conversation that might develop. We will keep the air-to-ground line up during this stateside pass. During the pass over Hawaii, the environmental engineers got a good look at temperatures on the workshop. Report that the average temperatures at critical locations in the workshop, such as the film and the food compartments, are ranging between 73 and 78 degrees, which appears to be consistent with the sort of temperatures we were getting yesterday, also in the workshop. We have acquired signal now at Goldstone, and, as mentioned we will leave the lines up live during this stateside pass.

SC

Good morning, Houston.

CC

Morning, Skylab. How are y'all doing this morning?

SC

Fine.

CC

And Skylab, Houston, we're in the middle of an Ascension pass, we still have about 9 minutes remaining in this pass. We've hustled all evening to get out a bunch of pads which are in the teleprinter, which you may already have found. The only note I'll have right now on those pads is that there is a newsummary Flight Plan for today that assumes (static) 13:00 wake up that you'll find there. During the evening the coolant loop's status has remained stable, and we do not want you to change the configuration that you guys put it in last evening. One other short note - We are up-linking some ATMDC memory load in preparation for switchover to the secondary computer. We're going to be doing, - it's now scheduled for tomorrow, and there's a message on the teleprinter concerning this up-link we're doing now.

SC

Yeah, we saw it, Dick, thank you.

CC

Okay.

SC

And we're just now getting up and about.

CC

Very good.

SC

Dick, how long do you think you're going to have to leave the SUS pump up and the coolant loop the way it is?

CC

Pete, I wish we right now could give you a real smart answer on that, but we just honestly don't know, with the - The EGIL and his people have been studying the problem all night, and we've got the situation stable right now, and we'd like to just leave it that way until we really understand what we're doing now.

SKYLAB II

VOL. I

SL-II MC-690/1

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6/8/73

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SL-11 MC-690/2

Time: 07:26 CDT, 15:12:25 GMT

6/8/73

SC Okay.

SC Hey, Dick, do y'all want that housekeeping 70
the morning power down, still performed?

CC Negative, we do not. That's one of the
messages that we have prepared, I'm not sure right now whether
it's on board or not, but we do not want it performed. As a
matter of fact not - -

SC (Garble)

CC As a matter of fact, now that I think about
it, it's in the odds and ends message, and we have not up-linked
that one yet, but do not do those steps.

SC Okay, we'll throw it away.

CC (Laugh) Okay.

CC Skylab, Houston. We're about 45 seconds
from LOS here at Ascension. We're going to see you at Carnarvon
at 13:30.

SC Okay.

END OF TAPE

SL-II MC691/1

Time: 08:05 CDT, 15:12:05 GMT

6/8/73

CC And incidentally we have - we have put in the first patch in ATMDC as I advised you while ago and everything is going real good there.

SC Take care you guys.

SC Hello, Dick. You still there?

CC Yes sir, I am.

SC Audio inside now, ain't it? Voice record yesterday's food. Remind me and I'll give it to you at Carnarvon, will you please.

CC Okay, sure will.

PAO This is Skylab Control at 13 hours 7 minutes during that combined pass over Ascension Island - rather Canary Island and Ascension Island. We got a call from the crew advising that they were just getting up and about and very close to the time that we planned to awaken them. And they were advised by CAP COM Dick Truly that the coolant loop situation has remained stable during the night. Crew was asked to leave it in the configuration that they had when they went to bed at about 12:30 a.m. And in response to a question from Conrad, Truly said we simply don't have a good handle at this time on the nature of the problem with the coolant loop in the airlock module. Again to repeat the situation is roughly as follows, the primary loop is off line at the present time. The primary loop has a problem with a valve that diverts coolant into the radiators to have temperature transferred from the fluid to the cold of space. This valve which should modulate in some fashion to maintain the desired temperature appears to be stuck wide open and consequently the loop is frozen up and is shutdown and we're operating on the secondary coolant loop in the airlock module. It is stable but is running cooler than desired. The last report we had on that showed the temperatures to be between 36 and 38 degrees. We are planning a Change of Shift Briefing. Our estimate on that at the present time is 9 a.m. in the Johnson Space Center Briefing Room, building 1. Flight Director Chuck Lewis will be participating in that briefing. At the present time Flight Director Milton Windler and his team of flight controllers have taken charge of today's activities, and are in the process of reviewing the status and deciding what to do about the coolant loop in the airlock module, determining a course of procedure, course of action and a series of procedures to troubleshoot the continuing problem with the secondary loop and to determine what can be done to remedy the problem - get things back to normal. The electrical power situation would appear to be greatly improved after the deployment of the solar panel. The report is that that solar panel on the orbital work shop is now

SL-11 MC691/2

Time: 08:05 CDT, 15:12:05 GMT

6/8/73

putting out approximately 3,000 watts of power under peak solar conditions at the current beta angle. Two of these wings - which would be the normal mission configuration would put out to 8,000 watts. However, with the current beta angle we have, 3,000 is considered to be just about nominal for the single wing that we have deployed - single solar array on the workshop. And prior to going off shift, Flight Director Chuck Lewis requested that his flight controllers review their situation with individual systems and operations to determine what activities that have previously been curtailed because of the power shortage could be resumed. That is going on at the present time. We have about 20 minutes now before we reacquire radio contact with Skylab. The spacecraft currently on its 359th revolution and we will be reacquiring at Carnarvon Australia. This is Skylab Control at 13 hours 11 minutes.

END OF TAPE

SL-II MC692/1

Time: 08:26 CDT, 15:13:26 GMT
6/8/73

PAO This is Skylab Control at 13 hours 28 minutes. We're just a few minutes now away from the scheduled reacquisition time of Skylab on it's 359th revolution and we'll be picking up radio contact first through the Carnarvon, Australian, Tracking Station and then slipping into coverage - overlapping coverage from the Honeysuckle Creek, Australia station before moving out over the Pacific and up over north of Hawaii. Flight Director Milton Windler at the present time going over today's Flight Plan activities with his flight controllers and are discussing ATM activities. the crew is also scheduled to perform S073 as well as medical experiment M092 and M171 as the major experiment activity. They are in the pre or post-sleep activity section of the Flight Plan at the present time. That's to continue up to shortly past 15:00 hours Greenwich mean time or about 10:00 a.m. central daylight time. We show acquisition of signal now. We'll stand by for a call to the crew from CAP COM -

CC AOS over Carnarvon for the next 6 minutes.

SC Good morning, Crip. How are you today?

CC Fairly fine and you guys sound rather cheerful after having to get up in the middle of the night.

SC Well, glad to do it to save our happy home.

CC Very good. Maybe it's getting a little bit happier.

SC Now let me give you quickly my menu for yesterday, Bob. It didn't get recorded last night.

CC Okay.

SC Okay, ate everything except delete macaroni, item 74; bread, item 75; 1 coffee, number 62; optional salt, 9.0; and I put on the tape recorder last night while we were ricocheting around lashing up LCG's I couldn't resist one can of butter cookies.

CC Was that butter cookies you ate or did not eat?

SC Bill that's an extra one I snuck in that I ate.

CC Well okay. One can of butter cookies.

SC Label that a midnight snack.

CC Sounds good. I can think of better things than that. CDR, Houston.

SC Go ahead.

CC We have you scheduled as you might have noticed on your Flight Plan today for a tape recorder check-out and changeout. Apparently that thing failed on us and we asked you to check a light on it. We need to coordinate that over a ground station when you do because we have to

SL-II MC692/2

Time: 08:26 CDT, 15:13:26 GMT
6/8/73

send a command for reconfiguration. When that comes up would you just not do it until we do have a ground pass.

SC Okay, understand and what is that, tape recorder number 1?

CC That's affirm.

SC Okay, very good. Then I'll wait for you to tell me what to do.

CC Okay. We've got that details on an odds and ends message which we're going to be sending up for you very shortly.

SC Okay, very good.

SC Oh, and Bob, while you're thinking about it the ground may want to take into consideration how we do this on the next EVA but we used up the three UCtA's that were spelled out for our day 26 EVA that we took out of the dome locker. So however they would like to juggle UCtA's for the next EVA why don't you have the stowage people think about that because we're going to - somebody's going to have to replace the ones that we use the next time - somebody's got to bring some more up.

CC Okay, appreciate that reminder. We'll have our stowage people work on it.

END OF TAPE

SL-11 MC-693/1

Time: 08:33 CDT, 15:13:33 GMT
6/8/73

SC Got any news for us this morning?

CC I've got the morning news here, per your request; if you'd like, I can give you a few blurps.

SC Yes, please.

CC Okay. By the way, this is kind of somewhat old news down here. I wasn't working when it occurred. Did you hear about the TU-144, the Russian Supersonic Transport that crashed last Sunday?

SC No.

CC Okay. It was during the Paris Air Show. I guess the aircraft made a couple of passes over the field, and it pulled up for a turn to come in for a landing, and apparently - well, the description of it in the newspaper was that it fell and then ended up exploding and lost the crew and some town people in the village surrounding the airport.

SC Oh, I'm sorry to hear that.

CC That's pretty bad. For some what is called late news, you guys were headlines today, on managing to get that solar panel out. And all of us are rather happy about that. The - Some news summaries I've got - the people passed on to me here. I can go over a couple of them for you. Said two California astronomers reported the discovery of a quasar, believed to be the most distant recorded object in the universe. And that was Dr. Joseph Wampler of UC, Santa Cruz, and Dr. Margaret (garble) I believe of US San Diego (garble) in identifying the quasar with the vast equipment linked with the (garble) Observatory, as that quasar's believed to be about 10 billion light years from earth. Mr. Clarence M. Kelly, the Kansas City Police Chief, has been nominated by President Nixon to serve as director of the FBI. The 61-year old law enforcement officer served as an FBI agent for 21 years before he joined the Kansas City Police Department 12 years ago. Also, today, West German Chancellor Willy - Willy Brandt is on an official visit in Israel, where he was praised by Mrs. Golda Meir for his stating upon his arrival that the sum of the suffering and the horror cannot be removed from the consciences of our people. I guess - The headlines in the Houston Post this morning read, "SPACEMEN FREE SOLAR PANEL. SKYLAB'S ENERGY CRISIS SEEMED SOLVED THURSDAY NIGHT AFTER A TWICE AROUND-THE-WORLD REPAIR JOB BY TWO OF THE COOLEST CATS EVER TO LABOR IN SPACE SUITS." And if I've got anybody interested in astrology up there, I can give you your so-called predictions for the day. Pete, your's is: Endless rounds of discussion get nowhere but serve to slow down your progress. Says to concentrate on your own affairs and select simple goals. PJ, your's says: Yesterday's challenges continue to escalate. If you must make changes, put your attention to be thorough and complete. And for Dr. Joe: Discretion carries your day. Be

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explicit. Volunteer no side issues which might confuse matters.
Family and associates are restless.

SC I'm sorry to hear that. I'm going back
to bed.

CC (Laughter). Okay.

SC Say, you still there, Crip?

CC That's a affirm. We've got about another
couple of minutes.

SC Okay. For planning purposes, unless
somebody has some strenuous objections on the ground, we'd
like to share the wealth a little bit up here. And ah -
Having a discussion amongst Joe and myself, we elected
to let PJ do EV-1 on day 26, and I'll do EV-2, if everybody
doesn't have any objections to that. We're all trained in
the different jobs, and we thought we'd like to let PJ get
outside.

CC Okay. We'll run that one around the
flag pole.

SC Thank you.

CC Skylab, Houston. We're 1 minute til LOS.
We'll see you again at Guam at 13:45. And I've just been
informed that we also need a food report from Joe. So maybe
if he could have that for me at the next pass, I'd appreciate
it, sir.

SC The menu report for yesterday: Ate
everything except one tea with lemon and sugar - no salt, no
DELTA H2O, no nothing else.

CC Okay. Understand. The only thing
different was one tea with sugar and (garble). That's nice and
quick.

PAO This is Skylab Control. During that pass
over the combination Carnarvon and Honeysuckle Creek Ground
Stations on the Australian Continent, a number of topics
covered with the crew, including their food reports. And
some discussion on the tape recorder and the airlock module,
which is used to record voice and data. That recorder
appears to have failed. Flight Director Milton Windler
reports we're going to do one more series of troubleshooting -
make one more attempt to repair the recorder. And if that
doesn't work, the plan is to replace it with a spare carried
on board. One other item of significance that came out of
the conversations was a request from Commander Pete Conrad
that the ground look into the possibility of having Paul
Weitz participate in the day-26 EVA, to retrieve Apollo tele-
scope-mount film. Conrad's suggestion was that PJ, Paul Weitz,
do the EV-1, with Commander Pete Conrad doing EV-2. And the
response from Mission Control was that we would look into
that. In about 3-1/2 minutes we just barely acquire at the
Guam Tracking Station. That will be a very low angle, low
elavation pass. If we get any contact, it will be, we suspect,

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rather poor quality. And then in about 13 minutes, we are
scheduled to acquire at Hawaii. This is Skylab Control at
13 hours 42 minutes Greenwich mean time.

END OF TAPE

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PAO This is Skylab Control. We're standing by for any possible acquisition through Guam. We don't expect much, but we'll see what comes out of this very low elevation pass. We'll be, if we get radio contact, be establishing that in about 30 seconds.

CC Skylab, Houston. We're AOS over Guam for about a 3-minute pass. And PJ, for you, are - your mineral supplements for today are 3 calcium tablets, and no one else has to take any.

SC Crazy. Thank you.

CC I thought tyou'd like that.

SC I don't mind.

CC Skylab, Houston. We're 1 minute til LOS, and we'll see you again at Guam at 13:55, 1, 3, 5, 5.

CC Skylab, Houston. In case I messed up on that, the next pass is at Hawaii, at Hawaii.

SC See you at Hawaii, and the calcium's down.

CC Good for the calcium.

PAO This is Skylab Control. Relatively little conversation on that short pass over Guam. And we'll be reacquiring through Hawaii in a little less than 6 minutes. We'll come up again for that acquisition.

END OF TAPE

SL-II MC695/1

Time: 08:54 CDT, 15:13:54 GMT

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PAO This is Skylab Control at 13 hours 54 minutes, just about a minute now or less away from regaining radio contact through the Hawaiian Tracking Station. We'll stand by for all that.

CC Skylab, Houston. We're AOS over Hawaii for about 2 minutes.

SC Okay.

CC Skylab, Houston. We're one minute to LOS we'll see you again over Goldstone at 14:07 - 14:07.

PAO This is Skylab Control. We've gone out of range of the Hawaiian Tracking Station. It'll be a short skip now to Goldstone, California and a fairly lengthy stateside pass down across the border between the United States and Canada, just below the Great Lakes, and out over the Atlantic, crossing right through the middle of the circles for a MILA and Bermuda Tracking Stations, also clipping the top of the Texas circle so we should have acquisition all the way across this stateside pass, with perhaps a brief drop-out between Goldstone and Texas. The crew getting geared up for a fairly active day of experiments and today after their EVA of yesterday the situation appears to have stabilized as far as electrical power, and the coolant loop situation in the airlock module is also stable and we appear to have a pretty good power profile with the solar panel on the orbital workshop, the one that was deployed yesterday and putting out about 3,000 watts peak. This is very close to what we would expect for a single normally functioning solar panel. The pair of them could put out a total of up to 8,000 watts. That would be for the maximum beta angle. And at the beta angle or solar exposure that we have right now 3,000 watts is about what we would expect for a normally functioning solar panel. Among the experiments that the crew will be performing today: two prime ones would be the M092, lower body negative pressure experiment, testing the cardiovascular condition of the crew and any deconditioning that may have occurred due to the period of time they have spent in zero gravity. And also runs with the Science Pilot Joe Kerwin and Pilot Paul Weitz on the bicycle ergometry - or bicycle ergometer - checking their metabolic activity. Both of those activities are of interest to determine the effects of prolonged space flight on the human body. And we might note that at 2:35 a.m. central daylight time, Skylab eclipsed the time in space record for the United States established by Gemini VII. Flight Director Chuck Lewis has left the Control Center now and is enroute to the building 1 briefing room for a Change of Shift Press Briefing. We expect that that Change of Shift Briefing now will occur at 9:15 central daylight time, about 10 minutes from now.

END OF TAPE

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CC Skylab, Houston, we've AOS over Goldstone for about, oh, about 6 minutes. We'll have a couple of drop outs running across the top.

SC All right.

SC Are you gone, Crip?

CC Say again, please?

SC I was wondering if you were still with us. Say, while we got a minute, and now that we got some power back, we were discussing the possibility of how we'd do our meals differently if we could use the heaters. As it turns out we probably wouldn't do it much differently than we're doing right now, because and I bet you this a long time ago, but it may have gone down the crack, we've got a lot of gas in this water. When you fill a rehydratable food package, with either hot or cold water, the package swells almost to its total volumetric capacity, with gases, and there really isn't any way you can put that kind of food cold in the food tray and put the lid on it, and eat it. The only thing you can do with those dehydratables that are supposed to be hot, are use the hot water. That works fine on all of them except about two, which really take a long time to reconstitute, that's the macaroni and the spaghetti. But that's a problem you might add thought to the followon crews, because it doesn't make any difference how much power we got up here, I don't think they're going to do the meals any differently than we've been doing them, but you get most of your meal prepared right before (garble).

CC Okay, copy, and we'll pass that on. I know Al's going to be disappointed if you can't prepare, prepare spaghetti right. You can't even let the air out by depressing on the valve, is that correct?

SC Yeah, if you do you get, you get, a lot of fluids come out of it. When you get a juice, you get juice up a drink valve and slop cold, whatever it is, into your mouth while you're letting air out into your mouth which is the best place, because it just goes all over the place.

CC Oh, okay, we'll pass that on to the food people and the crews.

SC Okay, it's not something you can't cope with and there really is a process. I don't think anymore about it, but it isn't essentially the way we planned it.

CC Okay.

SC I might say that the hot water is very hot and it does a good job, you can leave food reconstituted for 3 or 4 minutes before you start eating it and it's still very warm when you start to eat it.

CC Very good, that's good to hear.

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SC Say, Crip, you still with us?
CC That's affirm.
SC I know EGIL's got a lot of problems, but
how about asking him to consider where we turn on the hot
water heater in the waste management compartment today, that
we could leave it on.
CC That's affirm, you've got a GO to turn it
on and leave it on.
SC/MS Yeah.
CC Aren't we nice to you guys, we figured
you'd like those hot showers.
SC Well, we just wanted some to - for you
know, flight pads and everything, it's been a little chilly
doing that, especially since the vehicle cooled down.
CC Roger. We may get a couple of minutes
dropout on voice here, if we do, I'll have you again over
Goldstone at 14:13. Correction, at Texas.
SC Okay.

END OF TAPE

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CC (Laughter) Okay. On those S073 periods you can just use those for general cleanup that we'd taken away from you earlier.

SC Okay, but don't do that anymore. Ya'll are going to figure out how we operate up here (laughter).

CC Trying to get ahead of us, huh?

SC Well, I'm afraid to get too far ahead.

SC I woke up early this morning had to prowl.

SC Say, Crip, are you still with us?

CC Affirm.

SC Will you need me to - because of which tape recorder you want or you want to run that tape recorder stuff and tell me which one to change?

CC Okay, it's one that's bad. But we've got - we want to do a checkout on it and let me - stand by one and let me check on the status of this message.

SC Well, it may be up there. I haven't looked but I'm available anytime. If you want to plan it for the next station I'll be there.

CC Okay, Pete. I think that sounds pretty good to us. Let me verify what the status of this message is.

SC Okay, and what's the next station?

CC Ascension. And it's Ascension and it's at 14:34.

SC Roger, Ascension at 14:34. We're directly over head Bermuda now and it looks like everybody in the tracking station has got a nice day. I wish I was at the beach down there.

CC I think it's a pretty nice day all over the U.S. We've got the odds and ends message up there in your teleprinter right now and the first line on it, I think, explains what we want to do with the teleprinter and you might take a look at that before we get to that pass. And we'll be doing one command over Ascension, and then check a light and if it doesn't work out - we'll be asking you to change it out for us.

SC You didn't mean teleprinter - you mean tape recorder, right?

CC I'm sorry, yes.

SC Okay, see you at 34, bye.

CC And we still have about 4 minutes to go here in case anybody's got any traffic.

SC Yeah, PJ's got the prowls and I've got the whistles so we're whistling around and working.

CC Okay.

SC Still there, Houston?

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CC That's affirmative.

SC Crip how about asking somebody to look into something for us, will you. There's a greasy film on these - all these windows and when you try to clean it with plain water it doesn't do a very good job. Now we've got these separate wipes that haven't been - I wanted somebody to experiment on the ground before we try it up here. See if anybody could come up with anything to help clean the windows, will you, please?

CC Okay. You got any idea what the film is?

SC It's - it's greasy kind of stuff - it's just what comes out of the air - no I don't.

CC Okay.

SC Wait a minute. A guy on a white horse just appeared in the wardroom.

CC Well, despite your guy on the white horse we'll go ahead and look into it for you.

SC Okay.

CC Skylab, Houston. We're about 30 seconds from LOS and we'll have you again at Ascension as I said at 14:34 and the DAS is yours again.

SC Okay, thank you, Bob.

PAO This is Skylab Control at 14 hours 26 minutes. We're out of range now of the Bermuda Tracking Station and we're ready to begin the Change of Shift Press Briefing. We'll switch at this time to the Johnson Space Center Briefing room in building 1.

END OF TAPE

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CC Skylab, Houston.
PAO This is Skylab Control at 14 hours 52 minutes. During the change-of-shift briefing, we accumulated about 5 minutes of tape recorded conversation with the crew through the Ascension Island Tracking Station. We'll replay that for you now.

CC Skylab, Houston. We're AOS over Ascension at this time, and we've just sent up a command designating tape recorder 1 as our data recorder. We would like you to check panel 204 tape recorder's rotary - by the rotary switch to verify whether the STOP light on tape recorder 1 is on or off.

SC Okay, the CDR is enroute.
CC Thank you, sir.
SC Okay, Crip, the tape recorder 1 light is on.

CC Roger. Copy it's on. Roger, Pete. That means that it's kaput, and we need you to change it out as we've mentioned in that message that is in your SWS Systems checklist, 4-26.

SC Okay, Crip, we'll have it done here in a little while.

CC Okay.
SC Say, also Crip, we've had a BATT CHARGE light on forever - since sometime yesterday. Can you give me a reason for that, (garble) forever (garble), or what? It's on the ATM.

CC Stand by on that.
SC Speaking of BATT charge, Crip, how about - you want us to enable the CAUTION/WARNING for the airlock module batteries?

CC Let me check on that one also, Pete.
CC Okay. PJ, you can go ahead and enable that CAUTION/WARNING for the airlock module batteries, and we'll get a procedure to get that light out for you on the BUTT CHARGE.

SC Thank you.
CC Okay. And also, CDR, we've had a question come up here that we'd like you to ponder for awhile, please. And that is, if it is decided to deploy the MSFC sail, do you think that should be done with the normal EVA, or should we do it in two EVAs? I guess the prime question is, how crowded is it going to be in the airlock when you're going out? The concensus here seems to be that it would probably be better to do it in one, but we would like your recommendation.

SC Well, I'll tell you. I've already pondered that one, and I've got an answer for you. The way that we agreed to do it on the ground, if we were going to do it in that

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manner, was that we would suit up and do one EVA, whichever one it was, in whichever order you wanted it done, and that was do the ATM. And then we would pop back inside, rethread the airlock, take off our helmets, eat lunch and not get out of our suits, get back into suits, do a little (garble) check, and pop back outside and do the next one. Now that's a very easy thing to do. If you decided to do that, we would use the SPT on the sail deploy and then swap out, 'cause he's already suited anyhow, the PLT on the film deploy.

CC Okay, Pete, we copy that, and we'll pass it on.

SC Yes, here's my feeling, Crip. I would do it in the following order also. I would do the film deploy right away at the first EVA. I believe we could get that done in the shortest amount of time. I've also rigged most of the station out there. If you didn't catch it yesterday, I did configure both trees with the hook while I was sitting there doing nothing, and so the station is ready to go. And I think we can do a very fast job on our film transfers and pop back in, close the hatches, relax and reconfigure the airlock, with the sail, and then pop back out and do the sail.

CC Okay, I copy that. We're about to go AOS. See you again at (garble) at 15:04, 15:04.

SC Now if anybody has any big serious reasons for not doing it that way, which is the way we talked about it on the ground before we left, why I'll be more than happy to entertain those.

CC Okay. Thank you, sir.

PAO That concludes the tape playback of conversations with the crew through the Ascension Island Tracking Station. To kind of reiterate the conversation, Pete Conrad first was asked to troubleshoot the tape recorder that appeared to have failed in the airlock module. This is one of several aboard the vehicle, used for both voice and data recording. The check indicated that that recorder had, in fact, failed, and the crew was given the "go ahead" to change it out, replace it with a spare carried on board. Also there was a discussion of the EVA, which - and procedures which maybe followed on the 26th day of the mission. This had originally been intended as a single EVA to retrieve the film from the ATM experiment. And prior to the SL-II crew launch, of course, there was the exercise to determine what sort of sunshade was needed to replace the micrometeorite and Sun shield that had been ripped off during launch. And subsequent to the deployment of the parasol, some indication that it may be necessary to deploy an additional solar shield or sunshade toward the end of the mission, ostensibly during the ATM film retrieval EVA. Conrad's

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recommendation was that if it is necessary, if it's determined by the ground to be necessary to deploy the Marshall Space Flight Center developed sunshade, to replace the parasol, that it be done as a second EVA, on day 26. The recommendation from Conrad was that the crew suit up, go out to retrieve the film, come back in, remove helmet and gloves, have lunch, and then repressurize the suits for a second EVA in the afternoon to replace the sunshade. His recommendation on crewmen for these activities was that the science pilot, Joe Kerwin, participate in the EVA, along with himself, along with Pete Conrad, on the sunshade deployment and that the pilot, Paul Weitz, participate in the EVA for film retrieval. And those recommendations are under consideration at this time. Of course, again to repeat, this second EVA would be contingent upon a decision, which has not yet been made, to deploy the additional sunshade, which would be the Marshall Space Flight Center developed shade. We have about 4-1/2 minutes remaining until we regain radio contact with Skylab, through the Carnarvon, Australia, Tracking Station. We'll be back up at that time.

END OF TAPE

SL-II MC-699/1

Time: 10:03 CDT, 15:15:03 GMT
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PAO This is Skylab Control. Skylab now on its 360th revolution of the earth and coming up on acquisition at the Carnarvon, Australian tracking station. We'll get the lines up and stand by for conversation with the crew on that pass.

CC Skylab, Houston. We're AOS over Carnarvon for the next 10 minutes, for the next 1 - 0 minutes.

SC Okay. You're handy-fix-it crowd has changed out the tape recorder. You want to check it out?

CC Okay. We'll see if INCO wants to take a look at it.

SC Okay. And ah - I replaced it with side number 22.

CC Roger. Number 22.

SC And also, Crip. For your information, I transported 04, the failure mode was on the take up side drive sprocket. And the transporters are filled, don't ask me how it did this, wrapped itself 360 degrees around the transporter drive or idler gear about 4 times. I don't know how it could do that. We're trying to unravel it now.

CC Okay. We copy that.

CC And, Pete. For your information, per your request we're trying to get you up a new ATM cue card, which reflects all the changes that we've made. It's setting out here at Carnarvon, now. And I don't know if we're going to make it up at this pass or not. But it'll be up shortly. It is intended only to be used for the day, though, because it was put together last night in a rather hurried fashion. And we've checked it several times. We think it's correct, but tomorrow we're going to give you one that is good and that we've run in the simulator and we know it is good.

SC Okay. Thank you, sir.

CC And, CDR. For your information, that recorder checks out good. You guys do mean it when you say you fix anything, don't you.

SC We try.

CC They'll put you in the CBS if you don't watch out.

SC Now, Crip. We have cleared transporter 04. And I don't know what the crowd would like to do down there. I'm not sure that there's anything wrong with it. It seems to be all right. What would you like us to do with transporter 04? Red label it and put it away, or try her again? Because I think we should - a chance which could have been caused by the takeup spool being - I mean, a little loop in it, being almost full and not accepting any more film. That to me is more likely(garble) than the transporter. Because there was very little film remaining on the supply reel. We just

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stripped it out to throw it away. And there was very little film remaining on the supply reel. So I kind of think that might have been the problem. And it's a good transporter. We'd just as soon go ahead and use it, if the camera people concur on the ground.

CC Okay. Let me get a recommendation from (garble) first.

SC Hey, Crip. You there?

CC Affirm.

SC Okay. We've never done day-11 transfer, which are EREP tapes. I assume that we'll do that, whenever you - we finally get enough EREP tape to do that. Is that correct?

CC We'll check on that. And on the status of your transporter, what we'd like you to do is just go ahead and put it back in the drawer and we'll schedule it for a takeup of transporter 1 when it's required.

SC Okay. It looks good to me. It runs free and, it looked to me like the film just jammed up at the exit end there and tried to go into the takeup reel.

CC Okay.

SC Very good response.

SC Okay. Now back to page 14, cryo, fan, O2 valve, and all that balony. We're not going to do that because we're still running the fuel cells, right?

CC I'm sorry, Pete. I didn't copy your last statement.

SC I'm in the stowage book. And I'm reading the stowage that has not been done - day 11; day 13 we can take care of ourselves, and day 14 stowage has not been done either. And I gather we're not going to do that until we run the fuel cells dry.

CC I think you're correct on that. But we're verifying it here.

SC Okay. Page 15, we'll take care of.

CC Skylab, Houston. We just sent you a color - sent a message on ATM cue cards to be used for today and also the test message's up and hopefully that'll do it, for awhile on teleprinter messages. And we're still researching your transfer question, Pete.

SC Okay.

END OF TAPE

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Time: 10:13 CDT, 15:15:13 GMT
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CC Skylab, Houston. We're 1 minute to LOS. We'll see you again at Guam at 13:18 and hope that we'll have the answers to your stowage questions at that time.

SC Okay. Next question, Crip. Suit drying - suit drying - they wouldn't let us turn it on last night. Can we start the suit drying?

CC We're checking.

SC Thank you.

PAO This is Skylab Control. We've gone out of range of the Carnarvon Tracking Station. We're about a minute from reacquiring contact through Guam. During that Carnarvon pass, Pete Conrad verified that the tape recorder in the airlock module which had failed had been replaced and we checked out the replacement unit, found it to be working properly. Also Conrad reported having done a bit of trouble shooting on a film canister for the 16 millimeter data acquisition camera which had hungup and he found and apparently cleared the problem. And that reel - which had been used as a supply reel for the previous load is now available for use of the takeup reel in the future if needed. And we're standing by to regain radio contact in about 20 seconds through Guam.

CC Skylab, Houston. We're AOS over Guam for the next 8 minutes. And CDR, per your questions, the day 11 transfer -

END OF TAPE

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CC And CDR, per your questions. The day 11 transfers will be scheduled on day 161, prior to the EREP, that's day after tomorrow.

SC Very good.

CC And - Roger, I said that day 11 transfers would be done on day 161 prior to the EREP, at least that's our intent currently.

SC Very good.

CC Regarding the day 14 transfers, you were correct we'll be saving that for fuel cell shutdown which is estimated at day 166.

SC Okay. Got another question for you.

CC Okay, let me give you this other one, regarding your suit drying, you're okay to turn on the blowers and you're okay to turn on the heaters to drive the (garbie).

SC Very good, and then my next question, is it's getting pretty raunchy down there in the command module, we'd like permission to bring up the command module fan again.

CC To bring up the command module what, please?

Fan?

SC You know, the airlock module fans, in the command module, to blow air into the command module.

CC Okay, that sounds like a good idea from here, you've got a GO for that.

SC Okay, you want us to run it on LOW or HIGH?

CC On HIGH.

END OF TAPE

SL-II MC702/1

Time: 10:40 CDT, 15:15:40 GMT

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CC Skylab, Houston. We're AOS over the States for nice long pass there - should be about 15 minutes.

SC Okay, Houston, you've got H-alpha 1 on the PC. I'm working two monitors; so when you want to look at H-alpha 2, give me a holler, and I'll switch.

CC Okay, understand we've got 1 on now. And, Pete, we're going to be doing a computer load implementation at this pass. We'd like you to stay off the DAS for a little while, please.

SC DAS power is off.

CC And if the PLT is available, you'll never believe it, but I've got a message modification for him.

SC I hope it's got nothing to do with the 192 alinement that I just finished the visible part of.

CC Would you believe it did? Question is, did you get the READY light when it was called for?

SC I put all that stuff on B channel. Let me - if you can get any other traffic?

CC Negative.

SC Okay, here it is in summary. Negative. I have discovered apparently that the only time I get an ALINED READY light on the 192 gear is when I have a READY light on the C&D panel.

CC Okay, but you did not get a READY light on the C&D either. Is that correct?

SC Negative. Negative. I got a READY light on the C&D every time I expected it. The only conditions under which I could get an ALINED READY light was to have a C&D READY light.

CC Okay, that jives with what the people down here think that you should have.

SC It doesn't jive with what I thought we should have --

CC Okay, I guess my --

SC -- information.

CC Okay, I guess my real question, PJ, is that in the procedure on the first page on panel 110, when you got to where you had - supposed to have the S192 mode with a READY light, did you get that ready LIGHT? And then I understood that's affirmative.

SC That's right. Also, you lost the star-tracker pad. Just give us the gimbal angles if you've got them handy, will you please?

CC Wilco. Stand by 1 on that.

SC And while you're doing that, let me make some more comments about the 192. May I?

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CC Roger. If you can let me go ahead and give you those gimbal angles, I've got them available here.

SC All right, do.

CC Okay, the inner gimbal is plus 0081 and the outer gimbal is plus 1628.

SC (Garble). How about the times on that frame?

CC Roger. It's day 159, valid from 1300 to 2300.

SC No, the orbital times - when it is available.

CC Oh, I'm sorry. It's available day 4030 to night 1530.

SC Got it. Thank you.

SC Okay, can I jaw some more about EREP?

CC Let me have it.

SC Okay, I just finished the visible alignment. The values I got are the left meter reads 85, the right meter reads 54. The focus range, looking down into the open top of the can - the visible focus range is right up against the full counterclockwise stop.

CC Okay.

SC I also have a distinct impression that the Y-axis adjustments arm is getting very close to, if you look into the mechanism, its clockwise limit. It's starting to get kind of stiff.

CC Roger.

SC That's about it except for an interesting fact that I wasn't aware of. Maybe all the guys in the back room knew it, but I didn't. Is that when you open the S192 door --

END OF TAPE

SL-II MC-703/1

Time: 10:48 CDT, 15:15:48 GMT

6/8/73

CC Roger.

SC That's about it, except for an interesting fact that, I wasn't aware of, maybe all the guys in the back room knew it, but I didn't, is that when you open the S192 door, the thermal reading on this meter goes up about 50 percent, in other words, it's reading 45 right now and if I open the door it goes up to a little over 60. Do they know that?

CC Okay, apparently the boys in the back room agree that that's normal.

SC Hey Crip, (garble) to monitor.

CC Roger. Thank you.

SC Hey, Crip, you faded, did I understand you to say that yes this 193 systems experts expect that when the door was open?

CC The EREP people tell me that they did expect that increase when the door was opened.

SC Okay. You mean you're not going to let me align it with the door open, till I get these high readings now?

CC We'll check on that.

SC I'm only joking.

CC I thought you'd like to align it again.

SC No thanks. I'm very serious about this thing.

CC That's why I left it for Hank, last night, to tell you you were going to get to do it again.

CC And CDR, if you've got a chance, I guess we're sitting here loading this beauty for you this morning and modifying your program slightly, and we don't know if you've ever been briefed on what it is we're doing to it. Have you?

SC Nope.

CC Okay, let me see if I can't get together a little story for you. It's really no impact on crew operations, I don't believe, but there are some mods there that you should be aware of.

SC Okay, and in the meantime, here comes the white light coronagraph at you.

CC Roger, the WLC.

SC Okay, Crip, the 192 seems to have stabilized. In the thermal channel, as soon as I move that focus ring away from the stop, which is the await stop right now as described on the pad, I lose it completely. It drops right off the bottom and goes pouring down to 12 and sets there and I get it back by bringing the focus range back to the f/stop and that's where I'm going to leave it.

CC Okay, copy. I guess do you feel like if you had more movement on your focus that it would come in better?

SL-II MC-703/2

Time: 10:48 CDT, 15:15:48 GMT

6/8/73

SC When it gets to the focus stop, I can't turn it down yet, so the answer is yes, I think I could.

CC Okay.

SC And are you ready for XUV ON?

CC Stand by one on that.

SC Man, I'm like a kid with a new toy. I got two monitors super.

CC I was unable to copy your last, Pete, I guess we're not getting your TV real time, unfortunately, so it's okay to switch to XUV MOD now.

SC You don't mean you want me to record it on the VTR, are you getting it someplace downlink?

CC I - try to understand they're supposed to be recording it now on the ground and they'll be shipping it into us later. It's not for you to be putting on the VTR.

SC Okay.

SC Are you there, Crip?

CC That's affirm.

SC Okay, thermal channel reading is maximized at 43 percent. I'll give you the new settings, they're not much different, but let me give them to you anyway on the mike. Okay, Houston, the micrometer setting's on thermal adjustment Z is .518, X is .528 and they're both, just as I said, fullout.

CC Roger, I understood Y was .518, X was .528 and you're fullout at this time, is that correct?

SC That's right, Crip, that was Zebra not Yolk.

CC I'm sorry Zebra, right.

CC And PJ, our EREP people tell us that 43 percent, looks good.

CC And PJ, I don't know if you copied my last transmission, but 43 percent does look good.

SC Okay, thank you, Bob.

SC Okay, in our present condition, Bob, on S054, the door talkback indicates white, which I guess is suspected. We do not have a ready light, Pete just started a sequence that appears to be taking photos at the proper intervals, the frame count is decrementing, we do not have a operate light either. Is that the way we're going to live with this thing from now on?

CC Okay, our ATM people tells me affirmative, and I understood the door talkback is white and no ready or operate light.

SC That's right, but the frame counter is now decrementing.

CC Frame count decremates. That's affirmative. That will be normal operation from now on.

SL-II MC-703/3

Time: 10:48 CDT, 15:15:48 GMT

6/8/73

SC

Yipee.

CC

Goody, goody. Sort of a quick summary of what we're doing to the computer. We've already input new inertias to account for your condition of your solar panel wing. That is one off and one out. We've done on - updated your TACS thrust in pulse width to be used in case of a switchover and also we changed the logic slightly, such that the backup strap-down does use the Sun sensors, Joe might be interested in putting that on his little card. Also, we have because of all the rate gyro problems, we've been having, we modified it such that if we do get to switchover, the computer retains the gyro drift compensations that we've made on the other computer.

END OF TAPE

SL-II MC-704/1

Time: 10:57 CDT, 15:15:57 GMT

6/8/73

CC - -such that if we do get a switchover, the computer retains the gyro drift compensations that we've made on the other computer. And that is different than the way we figured we had it.

SC All right, Crip, that means that the gyro drift (garble).

CC I'm sorry, Pete, I was unable to copy your last.

SC I said that means we don't have to keep this fancy switchover gyro drift update compensation procedure, huh?

CC You're supposed to hold on to that right now. I'll try to get a clarification of that date.

SC You mean you don't trust your new program yet?

CC We haven't completed all of this loading.

SC Hey, Crip; SiT. You're putting all this in the primary computer, right?

CC That's affirm. We're putting it in the primary computer today. We're going to take a look at it and make sure that it all looks good, and tomorrow we'll switch over to the secondary and do the same to it.

SC Okay. Do you expect any problems or unusual indications tomorrow when we switch to the secondary, due to the fact that it's got an old program in it?

CC I think the only thing is that they will have to be rather swift on getting some loads in, to make sure we don't run into a gyro problem. But they're all set up and prepared to do that.

SC Okay. I wouldn't mind a short message on what the procedure is going to be, what the ground is going to do, and what you want us to watch for tomorrow.

CC Okay, we'll try to put that together for you.

SC Thank you, sir.

SC Plus, we'll go ahead and fold everything down up here, just in case.

CC I think that might be a wise idea.

SC Okay, Crip, two more items. One, another little piece of (garble) for the (garble) people. When I went to put the lid back on the cooler door, (garble). The ALINE READY light is on now, and I do not have a 192 READY LIGHT. So they got the ball to figure that out; I can't. I would also like clearance to go ahead and check out the condensate dump primary heater, and I would also like clearance to go ahead and check out (garble) primary timer.

CC Okay. Unfortunately, we've only got about a minute here, and I don't know whether I'm going to be able to

SL-II MC-704/2

Time: 10:57 CDT, 15:15:57 GMT

6/8/73

to get a GO for all of those on you, but I'll make a try at it (garble).

SC There's no rush. Just give me a call whenever you can. I don't need any procedures; I'll go ahead and do it myself.

CC Not a chance.

CC PJ, , you're GO to check out the condensate heater or to turn it off.

SC Okay. Yeah, we will.

CC Okay. We're about 30 seconds from LOS. We'll see you again at Carnarvon at 16:44. 1, 6, 4, 4.

SC Roger. About 40 minutes from now, okay?

CC About 40 minutes; that's affirm.

CC And, PJ, you can go ahead and put the cover back on 192.

SC Yeah, I'm going to start powering it down.

CC Okay.

PAO This is Skylab Control. We've had loss of signal on that stateside pass. Got a fairly long stretch now before we regain radio contact on the 361st revolution. We'll miss both the Ascension Island and the Vanguard Tracking Stations on this pass and come up next with a very high angle, or rather a low angle, contact through Carnarvon. Spacecraft to be relatively low on the horizon as it's seen from the Carnarvon tracking antenna. And also a low elevation pass over Guam before we come up again on Goldstone, on our next revolution. We have about 39 minutes remaining before we regain radio contact at Carnarvon. And during that stateside pass, we had a report from the crew that they were transmitting ATM television to Goldstone. We did, in fact, receive ATM TV at Goldstone. There are no plans to bring that television into Houston today. That will be brought in at sometime in the future when we have our lines up to the Goldstone site. We have no television planned for today, to be brought into Houston. At 16 hours 6 minutes, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-705/1

Time: 11:42 CDT, 15:16:42 GMT

6/8/73

PAO This is Skylab Control at 16 hours 44 minutes. We're standing by now for establishing radio contact with Skylab, on its 361st revolution. We'll be coming up on the tracking station Carnarvon. This will be a relatively short low elevation pass, followed by another short low elevation pass over the Guam station. And we do have AOS, and CAP COM Crippen has put in a call to the crew.

SC (Garble).

CC Rog. Unable to copy you there, due to the feedback. I'd like to go ahead and give Paul a GO, on his checking out the primary timer on mode Bed-A.

SC Roger, Bob. Okay. And a few words on the secondary condensate dump vent, here. If you're ready.

CC Roger. Go ahead.

SC Okay. When I went to turn it on, the temperature indicator was reading about 10, 10 degrees. I turned the secondary vent heater on, and it went away for awhile, came back in three or four minutes. And I forget what it was reading, now, but I think it was on the order of 40 to 50. And I thought ho, ho, everything's working all right. But I set my timer for about 8 or 10 more minutes, came back at the end of that time, and the thing was off-scale low, lower really. And the way it sits right now, or when I last tried it 15 or 20 minutes ago, if I'm correct, the primary heater had jumped up to what is apparently, the proper reading of about 20 degrees. But as I select secondary, heater drops down to lower limit.

CC Okay. Understand you're getting about 20 degrees out of the primary heater. And secondary heater goes to lower limits.

SC Yeah. That's when I just cycle it - either primary or secondary to judge the temperature readings.

CC Okay. That's just on a cycle, of the switch even when you don't wait for it, is that correct?

SC That's right. Understand, that when you go to primary it reads something, if you go to off that something stays there, when I go to secondary it reads lower limits. If you go to off the lower limits stays. Apparently, in OFF the last reading stays there.

CC Okay. We copy that.

CC And, Paul. On this primary timer check out on mode Bed A, just to save you a little time, recommendation would be to set both sieves to dump on panel 228 manually prior to selecting primary timer. Correction - -

SC (Garble).

CC Correction on my last (garble).

SC Well, I just set them both to stowage. Stowage won't hurt them for 15 minutes, will it?

SL-II MC-705/2

Time: 11:42 CDT, 15:16:42 GMT

6/8/73

CC That's fine.

SC Also, one more data point. We put them both to DESORB yesterday, when they were messing with the secondary coolant loop, or with the coolant loop (Music) And one more time, on the secondary time with both of them in DESORB, and what I'd done manually was turn Bed-A to from ABSORB to DESORB. When I turned on the secondary timer, and gave it a shot, and drove Bed-A to ABSORB and kept B in DESORB.

CC Paul, I'd appreciate it if you'd run back over that for me again.

SC Well, for the EGIL, what it is - it runs away - we didn't think it was suppose to anymore I still maintain, mode Bed-A secondary timer. As soon as you activate that timer, it drives Bed-A to ADSORB and Bed-B to DESORB. Or Bed-1 to ABSORB and Bed-2 to DESORB.

CC Okay. That's as soon as you activate it, I understand. Okay.

SC Right.

CC Okay - -

SC Hey, Crip.

CC Go ahead.

SC (garble) 3 CBRMs, it leaves that BAT charge light on, can I ah - what's the proper configuration for that thing?

CC We're going to try and fix that for you as ah - our pass over Guam at about 1700, if you can stand by on it, please, Pete.

SC Okay. You're going to handle it from the ground, right?

SC Affirmative.

SC Super, you've got it.

CC Okay. I'd like to clarify one thing I told you while ago. I was about a day out of date, apparently. On this load that we did for you on the computer, we did not put in a capability to hold those rate-gyros grip on a switch-over. They thought that over and thought better of putting it in. So that is not going into the computers. And for that reason, that little procedure that you're holding onboard is still applicable. I - And I guess if there's a problem with the way we're handling that, we'd could clarify it for you, but you're still going to have to perform that switchover or that update if you ever get a switchover. We are about to go LOS here in less than a minute. And we'll see you again at Guam. And that's 16:59, 1 - 6 - 5 - 9.

SC Okay. Crip.

SC Okay, Crip. Now that message got pretty well badgered, how about retransmitting that one. We have the

SL-II MC-705/3

Time: 11:42 CDT, 13:16:42 GMT
6/8/73

latest gyro count. But retransmit the message that says
how to put it in, in case of switchover.

CC Okay. We'll do that, and we're also working
up a message according to Joe's request of what we're going to
be doing tomorrow and things that he might expect on the
switchover to the secondary.

SC Okay. Got it.

END OF TAPE

SL-II MC706/1

Time: 11:49 CDT, 15:16:49 GMT
6/8/73

CC Okay, we'll do that. And we're also working up a message, according to Joe's request, of what we're going to be doing tomorrow and things that he might expect on the switchover to the secondary.

SC

Very good.

PAO

This is Skylab Control. That's all through Carnarvon. We'll be up again over Guam in about 7-1/2 minutes. And during that contact through Carnarvon, there was a series of conversations between the ground and Paul Weitz on house-keeping operations with the molecular sieve, devices which remove carbon dioxide and moisture from the cabin atmosphere. During this period of time, over the next two to three hours or up through 18 hours Greenwich mean time, the crew has time allotted for personal hygiene, which will include hot showers. They got the "go ahead" this morning to again turn on the hot water heater, which had been off during the powered down configuration. And that brought elated responses from all three, that they would again be back in the mode of getting hot showers. This is not the first time that the water heater has been on, however, during the mission. But it was down during the period of time that the vehicle was powered down to conserve power in preparation for and during the EVA. It's our understanding that previous showers were also with the hot water, but there was for a period of time a distinct possibility that those showers might not be so warm. We have about 5 minutes 45 seconds before we reacquire at Guam. We'll keep the lines up for that acquisition.

END OF TAPE

SL-II MC-707/1

Time: 11:54 CDT, 15:16:54 GMT

6/8/73

CC Skylab, Houston. We're AOS over Guam for
3 minutes. And we'll be doing some commanding to try to reset
that BATTERY CHARGE light on the ATM panel and also turning
off RATE CYRO Z1, Zebra 1. So if you'd stay off the DAS for
us for a little while, we'd appreciate it.

CC Roger, Houston.

END OF TAPE

SL-II MC-708/1

Time: 12:00 CDT, 15:17:00 GMT

6/8/73

CC Skylab, Houston. We're 1 minute until LOS.
We'll see you again over Goldstone at 17:20 - 1, 7, 2, 0. And
we believe we have reset your BATT CHARGE ALERT light on the
ATM panel.

SC

Okay, Roger.

END OF TAPE

SL-11 AC-709/1

Time: 12:04 CD1, 15:17:04 GMT
6/8/73

PAO This is Skylab Control, at 17 hours 4 minutes. We've completed our pass over Guam. We're out of acquisition of that station. And we'll next acquire at Goldstone in about 15 minutes. Over Guam we took action on the ground to clear a battery charge light on the ATM panel, as requested by the crew. This was an irrelevant reading at that point, indicating that a battery had not been charged fully, but that portion of the circuit, of the battery is - the battery bank is not in use, at this time. And by configuring the system properly from the ground, the meaning of the indication of the panel light was cleared. The secondary coolant loop, which is the one in operation at the present time, has remained stable. This loop is controlling temperature at about 40 degrees, coolant temperature. Now the desired or normal level would be about 47 degrees Fahrenheit. There's no reason at this point, to suspect that the control circuitry or the control valve is not functioning properly. It would appear that there simply is not enough heat in the system to allow the valve to mix in the desired amount of heat to bring the temperature to 27 degrees. The feeling is that as soon as the system absorbs enough heat, it will be possible for the valves to control the mixing of hot and cold water in such a way that the temperatures can be maintained at the desired 47-degree level. The situation might be likened to turning the airconditioning thermostat to a lower level, when in fact, the air conditioning system is simply not able to provide any more cooling capacity. And in this case, the situation reversed and there simply is not enough heat in the system to allow the thermostatic control system to bring the temperature up. And we feel that when the heat lowered to the system, increases, that it will perform as desired. We have now, 13 minutes until reacquiring at Goldstone, for what will be the next to the last stateside pass of the day. Following that, we have one more revolution where we acquire at Goldstone only. And then, we're off-range for the remainder of today, with contacts through Hawaii and eventually we'll again, began to pick up Honeywell and the Madrid Stations. And to supplement the network, we're approaching that period of time where in the parlance of the flight control team, we're off-range. At 17 hours 8 minutes, this Skylab Control.

END OF TAPE

SL-II MC710/1

Time: 12:19 CDT, 15:17:19 GMT
6/6/73

PAO This is Skylab Control. We'll be regain-
ing radio contact with Skylab through the Goldstone Tracking
Station momentarily. We'll pick that up now.

CC Skylab, Houston. We're AOS over the
States for about the next 15 minutes.

SC Roger, Houston.

SC At my last count, you had one in the library,
one in the shower, and one in the command module.

CC Hard to keep track of.

SC Hey, Crip. For the CM people - they may be
interested in knowing that the only two places that we've
collected water in the command module is on the window at number
5 cover, just a very little bit behind the condensate blanket.
The other place is down at the base by panel 377 where the
glycol comes in. You might expect that except now, instead of
being water, it's turned to ice. But I think now that we have the
blower running again, it'll probably go back to water.

CC Okay, we copied that. And, Pete, if you're
still in there, any chance you could give us the SECONDARY
EVAPORATOR OUT temperature?

SC SECONDARY EVAPORATOR OUT temp is 30 degrees.

CC Rog, copy. Thirty degrees.

SC And command module housekeeping number 7
is in progress, and the (garble) have been running - let me
look at my clock here - oh, only about 10 minutes. I've got
another 50 minutes to run.

CC Okay.

END OF TAPE

SL-II MC-711/1

Time: 12:23 CDT, 15:17:23 GMT

6/8/73

SC And for FAO, Crip, I'm doing the day 22
command module rejuggling right now, and I'll give them a
time line on that when I get done. I think it's going to take
longer than they think it was going to take.

CC

Okay.

CC Skylab, Houston. The next time somebody's
going by the ATM panel we would appreciate it if they would
check the S052 WLC.

END OF TAPE

SL-II MC-712/1

Time: 12:28 CDT, 15:17:28 GMT
6/8/73

CC Skylab, Houston. The next time somebody's going by the ATM panel we would appreciate it if they would check the SO52 WLC thermal switch, ON, we have commanded it on here, but our indication was that it was off and we just want to make sure the switch is in the right configuration.

SC

Okay.

SC

The thermal switch is on, Crip.

CC

Roger.

END OF TAPE

SL-II MC-713/1

Time: 12:33 CDT, 15:17:33 GMT

6/8/73

CC Skylab, Houston. We're 1 minute to LOS, our next station is at Vanguard at 17:45, 1, 7, 4, 5, and we will be doing a recorder dump at that station.

PAO This is Skylab Control. It was a relatively quiet stateside pass. One of our last such passes of the day, we have one more, where we have a relatively low elevation acquisition through Goldstone on the next revolution. The 362nd. And then there will be a rather lean period with relatively little station contact. Following rev 363rd, the only station coverage we'll have will be Hawaii and Vanguard. During that pass Pete Conrad reported that he and his fellow crewmen were pretty well spread around the vehicle. Pete was in the command module, one of the two crewmen was in the shower, he didn't mention which, and the other was in the library. Pete also reported that there was a very small amount of water condensate in the command module, said that a small amount had condensed out near the number 5 window. And it was also an area where glycol line entered the spacecraft cabin where a small amount of condensate had formed. This is a situation that has become rather common with vehicles operating in space, as the cabin atmosphere picks up moisture, the moisture tends to condense out at cool points. Conrad reporting that the amount of condensate in this particular case almost negligible, brings to mind earlier test runs with the Apollo command module, when it was placed in the vacuum chamber, prior to the start of the program, when several quarts of water would condense out from exposed coolant lines.

END OF TAPE

SL-II MC714/1

Time: 12:37 CDT, 15:17:37 GMT
6/8/73

PAO - - earlier test runs with the Apollo command module and when it was placed in the vacuum chamber prior to the start of the program when several quarts of water would condense out from exposed coolant lines and gradually these lines were tracked down and insulated and the cold surfaces protected from the cabin atmosphere. The point where now the amount that condenses out on cold exposed surfaces is just about nil. We have about 7 minutes remaining before we again acquire radio contact through Vanguard at 17 hours 39 minutes this is Skylab Control.

END OF TAPE

SL-11 MC-715/1

Time: 12:44 CDT, 15:17:44 GMT
6/8/73

PAO Skylab Control; 17 hours 45 minutes Greenwich mean time. We're standing by now for acquisition of radio contact through the Vanguard Tracking Ship off the coast of South America. That will be about a 9 minute 48 second period of acquisition. And we appear to be getting locked up with the spacecraft now. Quite a bit of noise along the air-to-ground circuit as we get locked up.

CC Skylab, Houston. We're AOS over the Vanguard for the next 10 minutes, and we will be doing a recorder dump this pass.

SC Roger.

CC And, Pete, for your info, the word I get back on the UCTAs is that they'll be flying three more up on Skylab III to replace the ones that you used. And for your next EVA, you can go ahead and just three 3 more out of the dome locker.

SC Okay.

CC Understand no problem on the cup sizes; all of them are the same.

SC Okay.

CC Skylab, Houston. We're 1 minute until LOS. And you don't have to listen to me again until 19:00, 1900. And, Paul, we copy that you're doing that (garble) SEV-A checkout at this time.

PAO This is Skylab Control. We've had loss of signal now, after a very quiet, and uneventful Vanguard pass. And we do not reacquire at Goldstone for 1 hour and 5 minutes, during which time I expect flight controllers out here will take the opportunity of this extended break to get some lunch. The crew also scheduled to eat in somewhat staggered shifts during approximately the same period of time. This afternoon, Science Pilot Joe Kerwin and Pilot Paul Weitz are scheduled to perform medical experiments M092 and M171, both of which are concerned with the effects of long-term space flight on the cardiovascular system and will be looking in particularly at any deconditioning that may have occurred. At 17 hours 57 minutes Greenwich mean time, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-716/1

Time: 13:59 CDT, 15:18:59 GMT
6/8/73

PAO This is Skylab Control. We're about a minute and a half now from regaining radio contact with Skylab, after more than an hour of being out of contact, and we'll be regaining contact through the Goldstone Tracking Station for about an 8-minute stateside pass.

CC Skylab, Houston; AOS over Goldstone for the next 5 minutes.

SC You're breaking up, Crip. Where are we?

CC Roger. You're over Goldstone now for about the next 5 minutes. Actually, you're just coming down off the Pacific Coast.

SC How do you read, Houston?

SC How do you read, Houston?

CC Loud and clear now. Paul. How me?

SC And we read you loud and clear.

CC Okay. We're at Goldstone now. Got about 5 minutes. Actually, we're just going down the Pacific Coast.

SC Okay, Crip. Let me ask you a question. Have you got any - couple - like couple these contamination DPOs or something. There's - probably get a few of those today if you want to send some times up (garble) valve, whatever they want them on the windows.

CC Okay; we'll take a look at it. If - see if we can get some in.

SC Crip, we're also looking at getting out maybe a couple three M4873 Bravos.

CC M4873 Bravo?

SC Yeah, that's in the shopping list between days 11 and 17; so I think maybe we'll pick off - each one of us can pick off one of those - one each guy.

CC Okay, very good. Pete, I got somebody researching it, but there was a question last night about these ATM cue cards. And it kind of looks like, right now, that basically the ones that we originally planned to have on board - the ones that weren't for the powerdown situation, will be good with perhaps one small modification. You guys still have those available to you?

SC Yeah.

CC Okay. We're still looking at it right now, and I'd like to talk about it down here a little bit more. But basically it sounds like if you eliminate the bit about inhibiting the CMG AUTO RESET and then reenabling it on the evening and in the morning, that those cue cards are still good. And you might ponder whether you'd like to just basically use those.

SC (Garble) target for the SPT. Gee, I'm not sure we launched with those.

CC I'm not sure you did either - but, I'm not sure you did either, and I got a checklist looking into it.

SC Yeah, I thought - I thought you meant the ones that we started scratching on after we got up here. And I gather you (garble) the weight situation.

SL-II MC-716/2

Time: 13:59 CDT, 15:18:59 GMT
6/8/73

CC Yeah, I meant the original ones. I got my checklist people looking into to find out whether you really had them on board or not.

SC Hey, Crip. Can I use the DAS yet?

CC Say again, Paul.

SC Can I use the DAS on the ATM?

CC You're GO on the DAS. It's still yours.

SC Okay, I just got ATM light which I think is star tracker (garble) I just wanted to look at it.

CC That's affirmative. That's exactly what you've got.

SC How far up to get rid of the light, anyway - why, you guys can get rid of the light for me.

CC Do you want us to do it, or do you want to do it?

SC No, I'll do it. Also, Crip, on the shopping list items, 124872 Bravo, we can do that around the dinner table tonight probably. And what we get done, we'll call into you this evening.

CC Okay. Real fine. Just give us that evening status report. It'll be fine, I believe.

SC Okay, and I gather you ought to be able to ship up tomorrow's Flight Plan fairly early.

CC We would - We'll do our best.

SC That was a cagey answer. Might give you a good dot for that one.

CC Roger. We're 1 minute to LOS now; we'll see you again over Vanguard at 19:22 - 19:22. And we'll be doing a recorder dump over Vanguard.

SC Hey, Crip, I got a word on SS009.

CC Go.

SC It showed up here in the star list at the it started. (garble) advertised name of 0106 - at about 59. At about 59 - and just about 59 the thing had just gone CLOSED, which seems like a short time before going OPEN again, for what that's worth.

CC Paul, we copied that it had closed at 000 - Correction, 0059.

SC That's right.

CC Okay.

PAO This is Skylab Control. We've had loss of signal now through Goldstone; about 16 minutes away from re-acquiring through the Tracking Ship Vanguard. The secondary coolant loop remains stable. The primary loop through the air-lock module is not in operation, and remains - rather, there's still no change in the status of that loop. The secondary loop continues to control the coolant temperature at around 40 degrees Fahrenheit. The desired level is about 47. There is no serious concern - in fact, no firm indication that there is any problem with the secondary loop. One of the things considered is that there simply is not enough heat load within the system at this point to bring the temperature up to the desired 47 degrees.

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Time: 13:59 CDT, 15:18:59 GMT

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And there also remains the possibility that the mixing valve within that loop is, for some reason, allowing too much flow to the radiators and not mixing properly, and therefore, controlling the temperature a bit on the low side. But, again, no undue concern about the secondary loop. And it has remained stable now since last night. Here in Mission Control several teams are working on the coolant loop problem. There are also teams at Marshall Space Flight Center and at several contractor plants looking into the problem. And we're giving priority to processing that data that relates to the coolant loops. At 19 hours 8 minutes, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-717/1

Time: 14:21 CDT, 15:19:21 GMT

6/8/73

PAO This is Skylab Control, Houston, at 19 hours 21 minutes Greenwich mean time. The Skylab space station is nearing the end of the 362nd revolution. We expect to acquire radio transmission with the crew through the tracking ship Vanguard in roughly 50 seconds. We'll stand by for air-to-ground.

CC Skylab, Houston. We're AOS over the Vanguard for the next 10 minutes.

SC Roger, Crip. Say, I need you to do a favor for me.

CC Will try.

SC Okay, I've got the - my class at Princeton's 20th reunion, this weekend, I think, if I'm not mistaken. I'd like to send a telegram to The President of the Class of 1953, Princeton University, 1953 Reunion Headquarters. Tell him, "I'm sorry I can't make it; I'm out of town on business." Sign it "Pete Conrad." I'll pay you when I get down.

CC Okay. I'll try to get that out. And I've got a small chore for somebody, if he's available, to - we want to take up a little bit more of the load with the PCGs; so I need somebody to go up to panel 206 to do a little procedure for me.

SC Okay, check, Bob. I'm on my way up there right now.

SC Hey, Bob, on the primary primer on

MOLE SIEVE A?

CC Roger.

SC Okay, I turned it on, and it didn't do anything for 7 minutes. At the end of 7 minutes, it went A to DESORB, B to ABSORB and has been cycling ever since and is still on the line.

CC Okay, we copy, and we can go ahead and leave that one on the line.

SC Okay, Crip, go ahead.

CC Okay, Pete. On panel 206, we'd like you to take the REG ADJUSTMENT knobs, turn them clockwise, and monitor under BUS AMPS ATM. And what we want to do is move the reading approximately 10 amps on both buses, toward the ATM.

SC Okay. Now BUS 2 on the ATM is delivering zero, and BUS 1 on the ATM is delivering about 7 amps to the workshop; so I'll go ahead and keep them respectively together and move 1 to where it feeds about 23 to the ATM and then on BUS 2 to the ATM. Is that right?

CC That's affirm.

SC Okay, Crip, there is - ATM BUS 1 is reading - is getting 2 amps from the workshop; BUS 2 is getting (garble) amps from the workshop. PCG 1 total is running 43 amps,

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Time: 14:21 CDT, 15:19:21 GMT

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and 2 is running 22 amps. That looks very good.

CC Okay. It's kind of nice to see the PCGs carrying their share of the load.

SC Yes. Is that it?

CC That should do it. Thank you very much, Pete.

SC Okay.

CC Skylab, Houston. Per your request regarding cleaning windows, if that's still applicable, our recommendation is to use one of your utensil - or use as many as required of your utensil wet wipes.

SC Aye-aye, will report back.

CC Okay, if that doesn't work, our next suggested solution is that you use your lens cleaning kit and F524, that's Foxtrot 524, and per the procedures in that.

SC Okay, that's good for (garble), huh?

SC Hey, Houston, have you decided yet whether we can turn the wardroom window heater on to get rid of the dewey ice crystals?

CC Stand by on that one, Joe.

SC Yes.

SC Hey, if you give us an okay to use the heater, tell us what you want us to do with the wardroom window vent valve.

CC Okay.

CC Okay, Skylab, you're GO on turning on the wardroom window heater; we would like you to leave the valve closed.

SC Vent closed, heater on. Roger.

CC Okey, dokey.

CC Skylab, Houston. We're 1 minute until LOS.

Next pass is at Hawaii at 20:31 - 20, 31.

SC Roger. See you then.

PAO The Skylab space station apparently has passed out of range of the tracking ship, Vanguard. We expect to reacquire in approximately 58 minutes. Over the Hawaii tracking station at 19 hours 33 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-718/1
Time: 15:29 CDT, 15:20:29 GMT
6/8/73

PAO This is Skylab Control, Houston. At 20 hours 29 minutes Greenwich mean time. We just got a call from the Warbler telling us that the crew will be in touch with the ground over the Hawaii tracking station in approximately 1 minute, more or less. At that time we should have about 8 minutes or so of air-to-ground, with the crew. We'll stand by for a call.

CC Skylab, Houston. We're AOS over Hawaii for about the next 8 minutes. And Skylab, we show that your not using your recorders at this time, and we would like to go ahead and dump, we've got that progressed so we'll be using experiment recorder.

CDR Okay. There's is between 91 and 92 and 171 if you want to go ahead and dump it.

CC Okay, we're in the process of doing that, Pete, and that's about where we figured it'd be. While I've got you here, can I ask you a question, please, sir?

CDR Sure.

CC Okay, we would like to take you up on your offer of picking up a few items today to do some due point only measurements with the CO2 due point monitor. At the locations stated on page 2-112 of your Switch Systems Checklist.

CDR 2-112 of the due point measurements, okay.

CC Yeah, that is the location, it's 2-110 and 111, sort of go over the item itself. But what we want is due point only.

CDR That makes sense. What we're going to do, Crip, is check out, just a second. We'll pick up M4873B for the CDR, SPT, and PIT and we'll also pick up H4972 Bravo, for every bit of conversation, okay? That will take care of those mid day 487 (garble).

CC Roger, we copy that.

CDR Okay. Yeah, and also the PLT would like to know how the OWS hatch leakage, was during the EVA yesterday?

CC We had no leak. Either you guys fixed it, or it fixed itself.

CDR Golly, Pete, (garble).

CC Yeah, just little flapper working for us, huh?

CDR I don't they made that good a deal, so it may have fixed itself.

CC Yeah, John, oh.

CC Skylab, Houston. We finished dumping the recorder and it's yours again.

SPT Okay, Houston.

END OF TAPE

SL-II MC-719/1

Time: 15:34 CDT, 15:20:34 GMT
6/8/73

PLT Okay, Houston.
CC Skylab, Houston, we're 30 seconds from
LOS. We'll see you again over the Vanguard at 21:00, 21:00.
And we will be doing a recorder dump at that point also.

CDR Okay.

PAO Apparently we've had a loss of signal with
the Skylab space station as it moved beyond the range of the
Hawaii tracking station. According to the flight plan,
the - two of the crewmen were doing the M092 lower body nega-
tive pressure and the M171 metabolic activities experiments
with Pilot Paul Weitz as the subject in this case, and with
Doctor Joseph Kerwin as the observer. A reminder that there
will be a Science Status Briefing with NASA Astronaut Robert
Parker, who is the mission's scientist, participating. And
that briefing is scheduled to start at approximately 4:15 p.m.
central daylight time at the news center briefing room at
the Johnson Space Center. At 20 hours 41 minutes Greenwich
mean time this is Skylab Control.

END OF TAPE

SL-II MC-720/1

Time: 15:58 CDT 15:20:58 GMT
6/8/73

PAO This is Skylab Control, Houston. At 20 hours 58 minutes Greenwich mean time. The Skylab space station is about a minute away from acquisition at the Vanguard site. We'll stand by for any radio transmissions that will take place during that pass of approximately 9-1/2 minutes.

CC Skylab, Houston. We're AOS over the Vanguard for the next 9 minutes, for the next 9 minutes. And we will be doing a data voice recorder dump.

CDR Okay Houston. And on this CO2 2 point temperature monitor, it's belly up in all modes. It reads 72 wherever you go on the temp gauge no matter how long you pump it. And it reads 74 on the dew point no matter where you go and how long you pump it.

CC Roger, copy, Pete.

CDR Sorry about that.

CC CDR, Houston. We were discussing the ATM cue card earlier. According to the information we have, those the ones for nominal power operation should have been stowed in your flight data file bag in the command module when you launched, as well as the one for reduce power.

CDR (garble)

CC I'm afraid I didn't copy any of that. I was getting a lot of feedback or noise in the background.

CDR That was the PLT's bicycle riding music in the background. Well, I've got the transfer check right here, just let me look at it.

CC Okey doke.

END OF TAPE

SL-II MC-721/1

Time: 16:03 CDT 15:21:03 GMT

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CDR Okay, Crip. I don't find anything like that in the transfer bag. I couldn't do that to the bag that it was in. It was in the Command Module, and if we transferred it over they'd had all the cue cards for air to what they called PSS transfer.

CC That's where it should have been, Pete. Understand you don't have it. Okay. We'll look into it.

CDR Okay, let me look through the Command Module and look, I mean up to the ATM and look at the cards up there.

CC Okay, there's really no big rush on it. But, I guess you might just tell Rusty we'll solve his cue card problem, if we guys can find out about it.

CDR Hey, I've got a card here that (garble) dated 5-21-73 which is a normal Sun side prep power down for operation next pass. The flare cue card, and on the back is the ATM operate EREP, and it's written in in red ink, it's just a power card. With a dark side prep post EREP. Doesn't really look too much different than what we had.

CC Okay, for one that is marked in red. It was the reduce power card.

CDR Okay, Gated 5-21. Do you think the other ones are laying around here somewhere? (garble) And we got other unattended ops with red scratched in there. It's reduced power cards. 533.

CC What we have basically done, was supposedly, we launched two sets of cards. The ones for the reduced power, we had written in - in it red ink, reduced power cards.

(garble)

CC Okay, and we had identified the nominal power cards, if there was any doubt, with red ink that said nominal power card.

CDR Okay, let me look for them.

CC Okay, I wouldn't take up too much time, Pete, if it looks like it's a problem, we can just teleprinter it up to you.

CDR I found them, hold it.

CC And CDR -

CDR I got them, I got them.

CC You got them, great. Okay we're gonna - It looks like with a couple of minor mods to that thing - to those cards, we can go ahead and use that, and it looks like it might be a lot easier to use than a cue card - or rather than a teleprinter message that we had sent up. I'll tell you what. Let us take a look at it

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Time: 16:03 CDT 15:21:03 GMT
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and we'll talk to you about it later to show you what the changes would be.

CDR Okay, let me - I do see ATM nominal operation 33073 with a red nominal power card, then I have an unattended ops card, which has quite a few little scratches and goodies and I finally wind up 5/1/73 is the date of that one.

CC That's it. That's the one. While I've got you here, we need to change that PCG output on panel 206 once more. We want to reduce by 5 amps the output from the PCGs.

CDR (garble) the ATM?

CC No, we want to go back toward the transfer BUS. Five amps on BUS 1 and 2.

CDR Wait a minute. What do you want me to do, feed more to the ATM or take more from the ATM?

CC Take more from the ATM.

CDR Okay, that looks like BUS 1 ATM and cb 2 transfer 2 amps at BUS 2 and taking from transfer about 2 amps. That looks like about zero across the board total.

CC Okay. We copy.

CC We're about to go LOS here in about 30 seconds. We'll see you again at Hawaii at 22:07. 22:07.

CDR Okay.

CC I'm watching. Here we go.

PAO We have indication that the Skylab space station has gone over the hill at the Vanguard tracking site. Next acquisition will be at Hawaii. On rev 364 in about 56 minutes. A reminder that at 4:15 p. m. central daylight time, at the News Center briefing room, Johnson Space Center there will be a science status briefing, involving NASA astronaut Robert Parker, who also has the title of Mission Scientist. At 21 hours 10 minutes GMT, this is Skylab Control.

END OF TAPE

SL-II MC-722/1

Time: 16:22 CDT, 15:21:22 GMT
6/8/73

PAO This is Skylab Control, Houston, 21 hours
22 minutes Greenwich mean time with a short announcement that
the Science Status Briefing involving NASA Astronaut Robert
Parker is about to begin in building 1. That's in the news
center briefing room, building number 1. At 21 hours 23 min-
utes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-723/1

Time: 17:05 CDT 15:22:05 GMT
6/8/73

PAO This is Skylab Control Houston at 22 hours 5 minutes Greenwich mean time, awaiting communication with the Skylab space station as it enters the area of the Hawaii tracking station. We expect to have about 9 plus minutes of air to ground. During the press conference that we had there was no transmission from the spacecraft, as they were out of communication range of any of the tracking stations. While we're standing by for the radio communications with Skylab.

CC Skylab, Houston. We're AOS over Hawaii for the next 9 minutes.

SC Roger.

CC Okay, got a few items I'd like to discuss. First is the startracker is unlocked due to a large stub angle we did about the Z, and I've got some new gimbal angles I'd like to give you and when you get a chance you can go see if you can get a lock on.

SC Wait 1.

SPT Go ahead, Houston,

CC Rog. Inner gimble is plus 0088. Outer gimble is plus 1466.

SPT Okay.

CC And Joe, we would like to see if it would be possible during that ATM daylight cycle 225, you got coming up this evening if you could put that TV on the VTR and we'll dump it from the ground.

SPT Roger.

CC Okey-Doke, and I would also like to talk about this ATM cue card situation with somebody, if we got time.

SPT Okay, Stand by 1.

SPT Go ahead, Crip.

CC Okay, Joe. Do you have the cue cards that Pete found awhile ago. The nominal power cue cards.

SPT No, I expect they're up at the ATM. Want me to go get them?

CC Okay, it might make it easier if you - Do you also - if you had available your activation checklist. And where it talked about ATM C&D activation.

SPT Okay. Stand by.

CDR He's on his way up, Crip.

CC Okay, thank you, Pete.

CC By the way, CDR, we're planning on, tomorrow, it'll probably be tomorrow afternoon, sending you a message on exactly what the status is with the airlock module coolant loops and what we plan on doing about it. I can give you as much as we know right now, if you'd like, or you can wait until then.

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CDR

All right, give me a little summary.

CC

Okay, I think I told you yesterday

evening that the primary coolant loop, that PCV Bravo valve was hung up in the full-cold position. And that's really what caused SUS 1 to freeze up on us, and why we couldn't use it yesterday. Was that all clear to you yet guys?

CDR

Yes.

CC

Okay, and it would appear that on the secondary loop that that same valve or the corresponding valve TCV-B is also diverted toward the cold position, but not as much as it is in the primary loop. But --

END OF TAPE

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CC Pete, B is also diverted toward the cold position, but not as much as it is in the primary loop. But, with the load we've got on the secondary loop right now, we appear to be holding our own. And the question is what do we do about it and how we go back to when we're using primary. And those are the things the guys are working over right now.

CDR Okay.

CC Okay and that is really about as much information as I can give you on it currently. And we'll be able to talk a little more about it tomorrow.

CDR What kind of valves are those. Are those the old Gemini valves that run on B flat or are they mechanic electrical valves?

CC The (garble) are B flex valves.

CDR (garble) valves, heavens to Betsy. We ought to be able to pick up the bernatherm or the exporter 2 around here some place.

CDR We can always send the flight Bs up with the next flight.

CC I'm sure that Allan would like to be able to do that.

PLT Surely we can fix it with the EPA.

CC You guys get where you like those things.

CC Did you find the cards there, Joe?

CC Somebody from the back room tells me they were even thinking about that. (garble) I think.

SPT Okay, I've got a ATM nominal pass, and an EREP, which is the power down for EREP and the dark side prep post EREP. I also have the flares prep from unhibited, and the unattended obs dark side prep. These two cards are dated 3-30 and 5-1 respectively.

CC Okay.

SPT (garble) activation checklist and you can tell me what page.

CC Okay, why don't you go to page 2-39. And while you're doing that, I'll give you a brief summary. Really all we're going to tell you to do is go back to a nominal power situation on your ATM C and D. That is you can go back to operating on your ILCA bus 1. And you can use variable lighting and so forth. And this is just the switch configuration for it in your activation checklist.

SPT Okay, so can I perform page 2-39?

CC That's affirm. Well now we - I don't think we're ready to talk about the, nobody talked about the radio noise voice monitor. (garble) What we're talking

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is the ATM Card D console power activation portion down through, well, really all you have to do is take it to if you get interval switch to variable. And that is ignore the inked in part.

SPT Yeah. Okay, I copy that.

CC Okay, Joe. Now on your cue card, the only adjustment we have to make is on the unattended obs. You got that one handy? Where we have 82A under the power down, where we have 82A, we want to leave that one in MODE KINE VICEAUTO 2.

SPI Okay.

CC Okay, and we want to eliminate the reference at the top of the same to INHIBITING the CMG AUTO RESET, and then at the bottom where we ENABLE it again. We're still going to leave that thing basically INHIBITED all the time.

SPT Okay.

CC Okay. And just to be doubly sure, to the left on the updated obs side of the card to the left of it about in the middle of it, it should have written in ink nominal power card. That's the one you have. Is that correct?

SPT In red ink it has that written on it.

CC Okay, that's the one we're talking about. Okay, you can take those 2 cards and I guess you can hide the others I wouldn't advise throwing them away, but I'd hide them some place, and use those. Now if that still appears to be too messed up we can always send you a teleprinter message if you so desire. But one other item is that you have a star acquisition and an EREP maneuver cue card that was down in the workshop in one of the 700 lockers and it is for a nominal power situation. And you can use it instead of that star acquisition reduce power card.

SPT Okay. I didn't even bring it down because we don't use it much.

CC Okay I'll - -

SPT But, we do have it.

CC Okay, I didn't think you really required it. We just sent you a your flight plan and the evening questions. And we're going to go LOS and we'll see you at Vanguard at 22:40, 22:40.

SPT All right.

PAO With Skylab having passed out of range of the Hawaii station. The crew has completed most of this day's planned activities. One more item remains at least for Paul Weitz, who is scheduled for an HK7J, which translated is a hot shower. Earlier in the day, the other 2 crewmen

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took a hot shower. Later this evening, the crew will engage in a presleep tasks with Science Pilot Kerwin additionally spending about an hour at the Apollo Telescope Mount. Vanguard is the next station in about 23 minutes. At 22 hours 18 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-725/1

Time: 17:37 CDT 15:22:37 GMT

6/7/73

PAO Okay, this is Skylab Control at 22 hours 37 minutes Greenwich mean time. The warbler has just advised us that we'll be coming up on Vanguard shortly. We are planning a change of shift briefing with the off-going Flight Director Milton Windler in the News Center briefing room at approximately 6:15 p. m. central daylight time. And we'll now stand by for air to ground.

CC Skylab, Houston. We're AOS over Vanguard for about the next 7 minutes.

CDR Okay, Crip, and I've got the EVA questions, 1 Alpha Bravo on B channel for you right now, and the SPT will put his comments about 1 Alpha on there, in a few minutes, we ought to have them both down tonight.

CC Okay, appreciate that, Pete, thank you.

CDR Mostly the story of Wiferdiles.

CC We sort of gathered that from some of the previous statements that you made.

CDR Don't knock success (garble)

CC Affirmative.

CDR As far as the QUAD when I put it on B channel. I couldn't see any difference in either QUAD, A or B, they looked both the same to me.

CC Okay. Copy.

CDR We put some more discription on there about what they physically looked like, and stuff like that. That's about it.

CDR I gather that there are giving consideration to the other sail deployment. Do you have any (garble) you can give me as to when you think they might reach a decision on that.

CC I was told it would be about a week.

CDR Okay.

CDR Well, we reconfigured the poles today back into the er locations in the packages and the Marshall sail equipment is ready to go again.

CC Okay. We copy.

CC And, Pete, you had mentioned those contamination things earlier, we finally got some computed, but they're kinda late. I can give them to you, I guess, if you want them, and you can make your choice on whether you do or not.

CDR Could you send them up on the pads or something?

CC I think we ought to be able to do that.

CDR Why don't you do that. I'm about to get in the shower. Paul just got out and Joe's playing with his medical stuff and we might be able to check it up tonight -

END OF TAPE

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Time: 17:42 CDT, 15:22:42 GMT

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CC - you there?

CDR Why don't you do that, I'm about to get in the shower. Paul just got out and Joe's playing with his medical stuff and we might be able to catch up tonight cause there's sunrise and sunset times in separate windows.

CC All right. Basically two times and I guess the flight company that we'd be able to get them in on a - on the teleprinter.

CDR Okay, well, we did - we're going to have all those 487 stuff for you so when they were supposed to be scheduled in the next couple of days you can try to get down there (garble)

CC Okay. Enjoy your shower.

CDR Okay.

CDR We appreciate the day. We got some things - vehicle pretty well cleaned up again and we're back in. I like tomorrow's flight plan, it's a good busy day and we're looking forward to it.

CC Okay, hope PJ doesn't mind getting up a little bit early for us.

CDR Aw, you know he's hung on that EREP.

CC I got the impression he got up and prowled around early anyhow.

CDR Yeah, he told me today that "Gee there's nothing I like better than doing all those alignments"

CC I'll bet.

CDR Well, I guess we're on the backside of the curve. Have we passed the halfway mark officially on the clock yet?

CC I was asking that myself earlier. I think we should have but let me see if I can get somebody to officially say that's true.

CC I got a Mr. Shaffer over here that assures me that we're past the half-way mark. The only question is nobody will tell me how long the mission's going to be.

CDR Okay.

CDR You mean they want us to stay longer?

CC No I don't - that's not true.

CDR We don't mind.

CC You really like it there?

CDR Yeah, it's pretty nice now that we've got all the juice back. It's even better, you know, we've got hot water in the head now and things are looking up.

CC Rog.

CC I don't if you've noticed but we've been a little slow about turning on some of the electrical stuff here and I guess it's - we're just sort of like to take it easy

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on the PCG - on the batteries as we bring things up to make sure that we don't hit too hard.

CDR Oh, I figured that. There's no problem and we're watching them here and it won't put a strain on anything because (garble) needing to (garble) go and everybody's getting back up and VCGC's are looking very good.

CC Okey doke.

CDR You have, in fact, - this does lighten the load right on the ATM considerably. Can you see any improvements in temperatures, charge rates and so forth on the CRBM's? - CBRM's?

CC I'll have EGIL have a story for you on the Ascension pass on that. We really haven't seen it doing much different than it has. We weren't ready to over tax it. We were cautioned not to take it down below the depth of discharge on the batteries anyhow. The next pass is at Ascension and that is 22:55 - 55.

CC Rog, and we're about - less than 30 seconds to LOS.

CDR (Garble)

PAO Next station is Ascension in about 8 minutes.
At 22 hours 47 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC-727/1

Time: 17:54 CDT 15:22:54 GMT
6/8/73

PAO This is Skylab Control Houston at 22
hours 54 minutes Greenwich mean time. The Skylab space
station is heading toward the Ascension tracking station
for the next 4 or 5 minutes. We'll stand by for any air
to ground we might have.

CC Skylab Houston. We're about 30 seconds
from LOS. We won't see you again until Vanguard again at
00:16. 00:16.

CDR Heavens to Betsy. Okay, see you, 00:16.
bye bye.

CC Bye,bye.
CC And Skylab, that will be the evening
status pass. I believe we only got one question really
pending on that one.

CDR Roger, the evening status report. Okay,
we'll have it for you. We had 3 showers plus whatever else
we got.

CC Okey doke.
PAO The Skylab space station has moved out
of range of the Ascension tracking station. A reminder,
the evening change of shift briefing, or press conference,
has slipped 15 minutes. It is tentatively firmed up now for
a new time of 6:30 p. m. central daylight time, with the
off-going Flight Director Milton Windler. At revolution
365, next station contact is Vanguard at 1 hour and about
16 minutes. This is Skylab Control.

END OF TAPE

SL-II MC-728/1

Time: 18:41 CDT, 15:23:41 GMT
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PAO This is Skylab Control, Houston 23 hours
41 minutes Greenwich mean time with an announcement that the
Change-of-shift briefing should get underway in approximately
four minutes or 45 minutes after the hour. Participating
in the Change-of-shift briefing this evening will be the off-
going Flight Director, Milton Windler. The briefing will take
place in the news center briefing room, building 1. At 23
hours 42 minutes G.m.t. this is Skylab Control.

END OF TAPE

SL-II MC-729/i

Time: 19:14 CDT, 16:00:14 GMT
6/8/73

FAO This is Skylab Control at 14 minutes into the new day, G.m.t. time. Some minute and a half away from acquisition at the Vanguard tracking site. We'll just stand by for what we expect will be the evening status report, and any other communication which will come down from the spacecraft.

CC Skylab, Houston through Vanguard 10-1/2 minutes.

CDR Hello there Hank, babe. How are you tonight?

CC Oh, pretty good, how'd your day go?

CDR Man, you're talking to three clean, sweet and smelly good guys. We've all showered and shaved and everybody's in good shape. The doctor's been digging in his medical kit and working with it and I think that he just looked at his own blood.

CC Roger.

CDR We've got the good ship all cleaned - she's all stowed, we like tomorrow's flight plan and we're ready to go.

CC Good show and we're standing by for the evening status report anytime you're ready.

CDR Okay, we're a little late eating so we haven't eaten yet, but let me give you the rest of it.

CC And (garbie) we'll be clearing the alert you got on the rate gyro, the star tracker. And we'll have a star tracker pad for you by Vanguard next time around.

SPT Okay.

SPT Houston, SPT.

CC Go ahead.

SPT Earlier it was mentioned that we could put tonight's ATM television on the downlink, but I think we got the time wrong. Is that 00:55 for that pass? I think that's the only pass we've got, right?

CC That's affirmative, Joe.

SPT Okay.

CDR Okay, Hank. The CDR is going to eat everything tonight and he may even add some butter cookies, but I'll let you know later. The SPT was a good boy and ate everything today, too. And the PLT says he'll put his on B channel later. The photo report for day 159 was an M092, 171-M151. Charlie Envy is 07, 35 percent, Charlie Envy is 04. That's it for the 16 millimeter. Thirty-five millimeter: CI26 frame count is 34; CI34, the frame count is 22. Seventy millimeter the X06, the frame count is 074 and be advised that we had

SL-11 MC-729/2

Time: 19:14 CDT, 16:00:14 GMT

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another frame counter failure on the Hasselblad. It stopped at 70 so we are manually counting. The configuration of drawer A is: A1 X-PORTER 02, Charlie India is 05, 60 percent. Charlie - -

END OF TAPE

82-XI MC-730/1

time: 19:20 CDT 16:00:20 GMT

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CDR - - configuration of drawer A is A1, X-PORTER 02, Charlie India 05, 60 percent, Charlie India 01. A2 is 03, Charlie India 06, 99 percent, Charlie India 03. A3 is transporter 06, Charlie India 07, 35 percent, Charlie India 04. A4 is X-PORTER 05, Charlie India 25, 100 percent, Mike Tango 11. Let's see, just 1 second. The additions to the flight plan today were M4873 Bravo by the CDR, and M4873 Bravo by the SPT, and M4873 Bravo by the PLT, they are all on B channel. We will also give you sometime tonight on B channel an M4872 Bravo. That's the additions to the flight plan. The stowage for today was the command module 22-day transfers were also completed today. You can tell FAO the time to do that takes approximately 1 hour. The command module systems housekeeping 7-day checks were completed in the same time frame. Stowage changes, I can't think of any, but there was a couple. Oh, yes by the way, on the EVA yesterday, according to the instructions, the pitch bar from the MDA cool kit was the fastest to the BET up at the brifal end. And it so remains there to this day permanently fastened to the BET outside the vehicle, so I believe you can scratch that from the list.

CC

Roger copy.

CDR

Okay, that's about it Hank. Have you

got any questions?

CC

No questions. That was a good report

Pete.

CDR

Okay, as I said earlier, we're happy with tomorrow's flight plan, and we're ready to go.

CC

Okay. I've got one other thing I want to throw out at you and let you be thinking about it. Since we launched 4 hours early, SL II in the morning, the landing is going to be a lot earlier. In fact it's going to come about 10 minutes after sunrise. And this obviously results in a larger than normal circadian shift, it's approximately 10 hours. And it is going to probably require 2 steps to get your workday in step with entry day. And we don't like this, steps back to back. So, what we're thinking about doing is doing about 4 hours of it on day 166, that's splash minus 7, and pick up the remainder in accordance with the flight plan. And the sequence for the undock and entry is going to be normal and a flyaround is planned. Now the sequence relative to the day-night is no problem if there is no night. We're in a BETA of 70 degrees at that time.

CDR

Right, we know that. Okay, that sounds, you know just that. That doesn't pulse me too badly.

CC

Okay, we'll tell them to plan it that

SL-II MC-730/2

Time: 19:20 CDT 16:00:20 GMT

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way and you be thinking about it. And if you guys have changes you want to recommend, we've got open ears.

CDR Okay. I think about Monday, we're going to want to talk to you about a couple of things. We're going to look at, going to think about a few things through Monday. And then I think we may want to talk to you and tell you all about a couple of things. And we'll think about reentry. Right now I don't see any big problem with that.

CC

Okay.

PAO We appear to have had loss of signal with the Vanguard tracking station. But, we'll leave the line up for we'll acquire again through the Ascension site in approximately 2 minutes. The Hank that was referred to in the air to ground conversation is Capsule Communicator Henry Hartsfield, who came on as a recent change of shift briefing, replacing the off going Bob Crippen.

END OF TAPE

SL-11 MC-731/1
Time: 19:28 CDT 16:00:28 GMT
6/8/73

CC Skylab, Houston through Ascension for
10 minutes, and we'll be dumping the recorder here.
PLT Roger, permission granted.
CC Skylab, Houston. I've got a startracker
pad for you.
PLT Go ahead.
CC Okay, it's Achernar. 52012, 50,000,
it's available day, 40 minutes remaining to night, 16 remain-
ing. Inner gimble 0090 that's plus. Outer plus 1683.
PLT Okay, is there any rush on that? How
about- you want me to get it just after we eat?
CC No rush, if fact it won't be available
until 40 minutes after day, and the pass is your med con-
ference and we need it before the following pass?
PLT Okay.

END OF TAPE

SL-11 MC-732/1

Time: 19:33 CDT, 16:00:33 GMT
6/8/73

CC CDR, Houston.

CDR Go ahead.

CC Okay, we're planning on trouble-shooting the primary coolant loop - AM coolant loop here tonight about a rev from now and we hope to have some procedures for you at Vanguard. And it would be helpful at Vanguard if you could give us the switch configuration of the primary coolant loop. We'd like to know such things as, the circuit breakers positions on the coolant loops and regulators in the panel 200. The switch is on 203 and the configuration of the panel 217. And it's not going to be extensive, there's just a few things we're going to want to try after the next Vanguard pass, probably over Canary.

PLT Hey, when do you want that dope, now?

CC Negative. Just have - sometime between now and the next Vanguard pass about an hour from now. You're next contact's about - it comes at 13:14 past the hour at Guam and that's your medical conference and then the Vanguard after that is at 154 and we're about 10 seconds from LOS now.

PLT Okay.

PAO As you perhaps heard, the flight controllers here at Skylab Control are going to do a little trouble-shooting on the airlock module primary coolant loop. They plan to do some of that at the Vanguard tracking station approximately an hour and 12 minutes from now. Prior to that time, however, we'll be in contact again with the Skylab space station as it passes over the Guam tracking site. At 41 minutes G.m.t. on day 160, this is Skylab Control.

END OF TAPE

SL-11 MC-733/1

Time: 20:12 CDT, 16:06:12 GMT
6/8/73

PAO This is Skylab Control at one hour 12 minutes Greenwich mean time, day 160. We just heard the warbler alerting us to the fact that we will be in contact with the Skylab space station through the Guam tracking site in a matter of a minute or so. We'll keep the line up for any radio transmissions between the ground and the crew.

PAO During this pass over the Guam tracking station we piled up quite a bit of dead air due to the fact that there was a medical conference which we will duly report later this evening. A look at the flight plan for mission day 16 which tomorrow, Saturday, the 9th of June, reveals that we have a rather busy day in science and radical experiments including Earth's Resources experiment program pass number six. The start of that pass over the state of Washington and it will cross parts of a dozen or so states travelling in a southeasterly direction. The EREP cameras will record data directly over Omaha, Nebraska and almost directly over St. Louis, Missouri. Also the cameras will be taking data over Kentucky, Tennessee, and Georgia and out over the Atlantic Ocean heading down in a southeasterly direction. On tap is a geology study, the after effects of flooding where the Ohio River met the Mississippi and an evaluation of strip mining in the state of Kentucky. Also, a part of a request by the U.S. Department of Interior, we'll be taking high resolution photography for mapping purposes. If the pass goes its full length it will be more than 6,000 nautical miles from the state of Washington through Brazil on the east coast near receiving. Approximately two and one half dozen sites will be active at this time. Medically, tomorrow there's another M092, lower body negative pressure experiment coupled with a M171 metabolic activity. Pete Conrad will be the subject experiment in this case with Kersin the observer. Pilot Paul Weitz will be the subject of an M131 human vestibular function or rotating chair experiment with the Science Pilot again observing. And we've allocated some time for house-keeping for eating and for Sun watching. At one hour 28 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-734/1

Time: 20:52 CDT 16:01:52 GMT

6/8/73

PAO This is Skylab Control at 1 hour 52 minutes GMT. The space station is within a minute of acquisition of signal at the Vanguard tracking site. We'll keep the line up for any air to ground.

CC Skylab, Houston, through Vanguard 10-1/2 minutes.

CDR Okay, Henry, read off the STS. You can read over the switch if you want.

CC Okay and for info, we're going to be commanding on the EP spectrometer.

SPT Kind of makes your throat catch a little doesn't it?

SPT Okay, Hank, go ahead.

CC Okay, Paul, I guess we just saw panel 200 we'll start there, if you want. On the bottom left row, I guess we'd like to check the positions of all our pump controls and inverters. Are they all closed?

PLT All four of them are closed.

CC Okay, and how about on the second row RAD flow.

PLT PRI and SEC are both closed.

CC Okay.

CC Okay, while you're there take a look at 203 and I guess we want to verify that both coolant loops are in COMMAND.

PLT I verify.

CC Okay, and on panel 217 could you give us a verify on the switches over there?

PLT Okay, both pumps are off and both loops are in bypass.

CC Roger copy. And let me run over our plan here. What we're going to be doing at Canary is bring up the primary coolant loop. And we're going to monitor the PCV Bravo outlet temp. If any of these temperatures drop below 35 degrees, we're going to command the primary loop down. If we're unable to command it down, then we're going to have to ask you to do that. And you'll do that by turning the primary coolant loop converter off on panel 203. And we'll give you the cue to do this. You've got to verify that the proper CB and switch configuration is there and we've all ready done that, so we don't have to worry about that.

PLT Okay.

CC The reason we're doing this is we're trying to get squared away for the next 12 hours so we don't run into another thing like we did last night. And there is no more actual requirement on your part unless we have to have you to set the loops down. And we'll be planning

SL-II MC-734/2

Time: 20:52 CDT 16:01:52 GMT
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on doing that at Canary.

PLT Okay, what time is that?

CC Okay, Canary is coming up after this
pass, and it will be at 14.

PLT All right.

CDR Okay, Henry, we broke out 64 BTUs 8 CAL
FUs and we're ready to go with 6 portable fans and anything
else you guys come up with.

CC I hope it is not necessary.

CC Paul, did you get your questions and
answers on the IMSS one?

PLT No.

CC That's the environmental samplers and
it's on page 3215 of the IMSS checklist.

PLT (garble)

END OF TAPE

SL II MC-735/1

Time: 20:57 CDT 16:01:57 GMT

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CC - turn on the IMSS 1.
CDR No.
CC That's the environmental sampling and it's
on page 32-15 of the IMSS checklist.
SC Oh, thank you.
CC This data we're gonna get on the coolant
loop is sort of giving us a head start on tomorrow. We'll - What-
ever we find out here we'll factor into our plan tonight
for really doing some serious troubleshooting tomorrow.
PLT Okay, when you gonna turn that on?
CC Okay, it won't be until the Canarys as
I say, and that's still awhile away at 14.
PLT Right.
CC Have you got a minute to chat with us
now?
SPT Yeah, go ahead.
CC Okay, I guess it would be better for
the CDR and SPT. We been reading over this dump tape on the
SAS deployment and I guess some of us were - had the question
as to what really happened there when you finally cut through
that bolt that - It looks like the pole and everybody kind
of went for a good ride. I guess we'd like to get little
more elaboration on what dynamics you went through there,
with the umbilicals and all.
CDR Well, I couldn't really see my umbilical
Hank. What I did, pulling on the BET when the tape broke, I
took off upward, but I was tethered to the BET and I had
both hands on it, and of course it went slack, and so all I
started doing was hauling myself toward the A-frame. And
Joe was hanging on to the BET too. I don't know where he
went.
SPT Let me tell you first about Pete's um-
bilical. It really was no problem, because his umbilical
went skipping up, skipping up, intending to take a set up
there, and all the time he was working out on the beam it
was trailing. It was lapped in behind him in a big arc
around the corner and away from the SAS beam. So it never
gave me a moments trouble. When he bounced up it just bounced
up along with him. I was under the - further back, in fact,
right at the corner of the SAS, heaving like a mule, and
when it went slack, I just went up in the air a few feet
and did a right roll of 360 degrees, and finally scrambled
down under the truss work there, slowly.
CC Sounds like a fun ride. How about when
you cut the bolt. I think Pete was out part way on the
pole when that thing finally came through. Last night you
said something about there you went through a little gyration

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Time: 20:57 CDT 16:01:57 GMT
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too.

CDR Well, what happened was is I went back behind the hinge line where I was supposed to be, and I was going to have one hand on the BAT the other hand on the pole to steady it, and I was safe in minux-X looking at the cutter. And I said okay Joe, pull on the cutter, and Joe gave two or three mighty heaves and I said "Is that it, because nothing happened" and he said "Yeah, that's - He says " I got it as tight as I can" and I wasn't that far away from it and it looked to me like the jaws had closed completely. But I thought what happened was that the jaws had closed completely and they had ripped. You know how you can do that with a tin snips or something, where the snips will actually spread and not cut the metal, but close all the way, the metal squeezed between them. I thought that's what had happened. And that I was going to have to go out there and remove the cutter. So I said to Joe, I said, "I'm going to go on out there and take a look and see what's going on". Well, at that time I got just about out to where the scissors mechanism is on the cutters, which isn't too far away from the strap, the thing let go by itself, or Joe gave one more heave, I don't know which happened, but anyhow it let go and it was just like the guys figured. The strap was in tension, and it was holding the SAS beam, and the SAS beam popped up about 6 feet, I guess, and of course, I let go of the pole, and I don't know where the pole went, but I did the same thing again. I grabbed a hold of the BET, which was now getting slack, and I started pulling for the secure end at the A-frame pulling myself back, because I did a couple free whifferdills around the lind doing something, you know, just getting back there, but nothing too bad.

SCHWEICKART Pete, when the strap let loose, did the meteoroid shield move or slide underneath the beam at that same time, or did it sort of stay there.

CDR Don't know. I'm sure, I didn't see it, see, because the beam popped up right away, and I'm sure that the meteoroid shield snapped under - let me tell you what I did. When I was out there before, hooking up the BET the first day pass, I crawled around to where I could look down around the meteoroid shield, and the - wait a minute, I got to get it from Paul. What's the name of the hinge?

SCHWEICKART That's butterfly.

PLT (garble) - oh, butterfly.

GDR The butterfly hinge was completely attacked and partially deployed. And all the way along the whole beam, and I could see that, because there was light coming through it. I'm sure that the whole meteoroid shield

SL-11 MC-735/3

Time: 20:57 CDT 16:01:57 GMT

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now is sitting there 6 inches away where it should be, what's left of it, except for the parts that are curled up or jagged edgewise, and so forth, because the two, as you know, I'm sure the two rods, torsion rods, and the links were still on there so I ditched in them, and they ought to show the right position. What do they show on telemetry?

SCHWEICKART We'll check on it.

CC Hey we're about LOS now, Pete. That was a good description and we're coming up on Ascension in 1 -

PAO During the pass just ended we had a clarification of yesterday's acrobatics in space during that EVA, which freed the solar array. And we also told the crew that we plan to bring up the primary coolant loop, and explained to them that if certain of the temperatures dropped to certain levels, why we will command the primary loop down. There's no plan at the present time to perturbate the secondary loop. We expect to acquire the spacecraft again in about 6 minutes. At 2 hours 5 minutes GMT, this is Skylab Control.

END OF TAPE

SL-11 MC-736/1
Time: 21:10 CDT, 16:02:10 GMT
6/8/73

PAO This is Skylab Control, Houston, two hours
10 minutes Greenwich mean time, roughly a minute and a half
from predicted acquisition of the space station through the
Ascension tracking site. We expect to have coverage across
Ascension, the Canaries, and the Madrid tracking station on
this, the 367th, revolution. We will stand by for air-to-ground.
CC Skylab, Houston through Ascension for one
and a half minutes.

PLT Okay.

PLT Hey, we're all at the - down in the ward-
room putting this 487 thing on tape, so if you need me
just holler and I'll ziggy on up.

CC Say again.

PLT We're all in the wardroom. If you need
me in the STS for that coolant loop stuff just holler and I'll
go on up.

CC Okay.

CC Skylab, Houston. We're about 30 seconds
from LOS at Ascension and we may drop out and we may not. In
any event the Canaries will be coming up at 14 and we're going
to dump the recorder.

PLT Okay.

CC Skylab, Houston through Canaries and Madrid
for 13 minutes and we're going to start commanding the coolant
loops.

PLT Okay, we're all sitting here holding our
breath.

END OF TAPE

SL-II MC-737/1

Time: 21:15 CDT 16:02:15 GMT

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CC Skylab, Houston. Leave off the PRIMARY loop UP. The - all indications were the temperatures for the TCV Bravo out vent right on down to 35 so we're pretty sure that valve is stuck and not modulating. And we've commanded that loop OFF again.

CDR Okay, Hank. What does that mean? Is there - has that valve gotten so cold that it can't modulate any more? Is that the problem?

CC Well, we're not quite sure on that. What we're hoping for is it may have been in some water or something in there and it may have frozen up. And our temperature indications show that the temperature is up around 52, 53. Perhaps all this had melted, and we were kind of hoping it would work. But we find that's not the case and we're not sure why it's stuck where it is.

CDR Okay. I guess you've got to think about it a little longer, huh?

CC Roger. We've got this data point now and we don't have to consider that water thing any more. And so tonight we're going to smoke it over and see if we can't come up with some sort of a plan for tomorrow to do a little troubleshooting.

CDR Okay, very good. The primary loop is secure now. Is that correct?

CC That is affirmative.

CDR Okay, now you want us to keep running the secondary loop at plus 2. Is that right?

CC That's affirmative.

CDR Now, do you think plus 1 is still frozen?

CC We don't think it's frozen, Pete, but we can't tell for sure.

CDR Well how about letting us give it a quick check, and see if we get an EVA warning light. We didn't get any before when it was frozen. Let's see if it will flow, Okay?

CC Stand by 1.

CC Okay, you got a GO on that Pete.

CDR Okay, because we can hear the pumps running, it just wasn't going any where. So we'll give it a try right now.

CC Okay, we'll be watching.

CDR Hey, Hank, it didn't work. We can hear both pumps run, but we don't get any EVA warning light. It's obviously not flowing.

CC Well, we were showing flow down here, Pete.

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Time: 21:15 CDT 16:02:15 GMT
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CDR Well, I don't understand, Hank, because
the other day when I ran the housekeeping test on it every
time you turn the pump on you activate the Delta P switch.
And I'd get to EVI - -

END OF TAPE

SL-II MC-738/1

Time: 21:21 CDT, 16:02:21 GMT

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CDR - when I ran the housekeeping test on it everytime you turn a pump on you activate the Delta P switch and I'd get to EV-1 warning light until it came up the pressure. Now we don't get it and we haven't gotten since it wouldn't - we got no flow the other day when we were trying an EVA and the crewmen had no flow and we've never gotten a warning light since then.

CC Copy. According to what we saw in the flow then - it looked you may have tried both pumps. Is that correct?

CDR Yeah, that's right, primary and we got no warning light and then I went to secondary and I got no warning light.

CC Our indications down here did show flow although I'm not so sure they got up to full spec value.

CDR Well, here we'll go turn one of them on right now and you look at it for a minute. We'll let it run for a second.

CC Okay.

CDR Okay, that's the SUS-1 primary pump.

CC Okay, we're showing about 250 pounds an hour flow.

CDR Okay, well let me just - can I turn off SUS-2 for a second and then turn it back on again?

CC Hold up on that.

CC I guess we want to leave SUS-2 alone since it's running okay.

CDR All right.

CDR Hey, I just - I don't understand if SUS-1 is FLOW why we didn't get the momentary trip on the flow sensor on the EV-1 caution and warning.

CC Okay, I see you've shut it down, is that correct?

CDR Say again?

CC You've already shut system 1 down, is that right?

CDR Yeah, but like I said, I don't understand the other day when I did the checkouts on it the caution and warning was working fine. Now, the output's LSU on there or I wouldn't know what we were really getting flow through the whole loop of not.

CC Okay, we'll - let us think about that one awhile.

CDR Okay, it could be it's - I mean that's a double SUS - you know the thing fields up the other day and the caution and warning went out. Now maybe if it really did freeze up it did something to that transducer for all I

SL-II MC-738/2

Time: 21:21 CDT, 16:02:21 GMT
6/8/73

know.

CDR And I don't remember last night when we turned on SUS 2 whether we got the low flow warning indication as it came up to me or not. I don't remember.

CC Hey, while you're up that way why don't we get you to hit a couple of switches on the ATM.

CDR Have at it.

CC We need the 52 main power to STANDBY, and we'd like to the monitor - the TV monitor-1 ON.

CDR Okay, TV MON-1 power is ON and 52 is in STANDBY. Anything else?

CC That ought to do it. That cleans up for unattended.

PLT Ed, shall we change our unattended OPS checklist to reflect this?

CC I think it does read that way now. We're - this is original normal power cue card that you flew up with.

PLT I'll check it again. I went through it today and wound up with those - I ignored the cross-throughs and write ins on it which didn't say to leave one monitor powered up. I didn't have any idea we'd gotten back to that mode of operation. I didn't think you'd want to leave a monitor up all night.

CC We want it to run just like that card, Joe with the mark-ups on it when you went up - when you took it with you.

SPT You guys going to check that EV-1 television during the night?

CC We probably will.

SPT God loves you.

CDR Okay, Hank, I'm glad you said that cause I just put the 132 panels (garble) to (garble) mode 1.

CC Roger, that's correct.

CC And we would like you to if it's convenient to get the star tracker up so we can look at it at Guam and we're about 20 seconds from LOS. And Guam will be coming up at 53.

CC Okay, the star won't be up until about 40 minutes of day.

PAO During this pass over Ascension, the Canary Islands and the Madrid station there was a trouble-shooting attempt to induce the primary coolant loop to operate satisfactorily, but apparently there was no joy in that, and so the ground commanded that the primary loop be turned off while we go back to the drawing board, so to speak, and think what we can do next. EGIL, the General Instrumentation and Life Support Systems Engineer believes that the flow transducer

SL-II MC-738/3

Time: 21:21 CDT, 16:02:21 GMT

6/8/73

has failed at some time or other, valve is stuck, stopped modulating, so we will go back and do a little thinking. At two hours 29 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-739/1

Time: 21:36 CDT 16:02:36 GMT

6/8/73

PAO This is Skylab Control at 2 hours 36 minutes Greenwich mean time. With the evening medical bulletin on the status of the crew as reported by Dr. Charles E. Ross, who is quoted thusly: "The Skylab crew is in excellent condition following a modified off day working schedule. The crew continues to eat well and has an adequate fluid intake. They did not report any health problems. The Science Pilot, Dr. Joseph Kerwin, performed a blood count on himself today. He reported that his hemoglobin and differential flight count were similar to his preflight tests. He had no problems operating the slide strainer and microscope under the weightless condition. The Commander is continuing to perform his personal exercise at high work loads with no observed problems." At 2 hours 37 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-740/1

Time: 21:50 CDT 16:02:50 GMT

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PAO This is Skylab Control at 2 hours 50 minutes, Greenwich mean time. The space station is approximately a minute away from Acquisition at the Guam tracking site. On what will probably be the last pass before the crew goes to sleep for the night. We'll stand by for any radio communication with the crew during this pass, which last approximately 6-1/2 to 7 minutes.

CC Skylab, Houston, through Guam for 6-1/2 minutes.

CDR Roger.

CC We're real slow down here, but it's finally dawned on us the reason that caution and warning wasn't working is that the caution and warning isn't activated through panel 217. It's only from the panels and the locks.

PLT Yeah, we started it through the lock panel also.

CC Oh, and it still didn't do it.

PLT Right.

CC Back to the drawing board.

PLT Yeah, it sounded good for awhile.

SPT Well, you gave me one. I didn't know that panel 217 didn't activate the caution and warning.

CC Skylab, Houston. We got a few little news items here we could read up to you if you want to listen to them.

CDR Yeah, go ahead. First I put on B channel that the CDR couldn't stand it and he ate two cans of butter cookies, with his vanilla ice cream(garble)

CC Roger. Copy.

CDR We're listening.

CC Okay. Chris sends his regards.

CDR very good.

CC First item. Texas wheat crop is expected to be the third largest in history, but it's in danger because of our fuel crisis. It's predicted to reach 63 million bushels and the crop is dependant on power combines and trucks that need fuel and diesel oil to operate. On the brighter side, Americans may be cooking with Russian gas in about 6 years if an agreement between U.S.- two U.S. farms and the Soviet government overcome several obstacles, economic and political that are still pending. The two farms signed a letter of intent for the Soviet Ministry of Foreign Trade to import about 10 billion of natural gas over a 25 year period. President Nixon believes that the American genius can solve the country's problems, at home and in the world --

END OF TAPE

SL-II MC-741/1

Time: 21:45 CDT, 16:02:54 GMT

6/8/73

CC - - over a 25 year period. President Nixon believes that the American genius can solve the country's problems at home and in the world, if people can concentrate on what's right rather than what is wrong with the country. The president spoke at commencement exercises at Florida Tech down in Orlando, and he said " I say Americans when they have a problem will solve it because we have a genius to solve it, the same genius that built America and made us what we are today." Okay, and the senate has approved a bill that will maintain high farm income without harming consumers. Included in the bill was a provision to limit subsidies to large scale farmers. Senator Sam Ervin Chairman of the Senate Select Watergate Committee has drafted a resolution that will expand the scope of the panel's mandates. The proposed resolution asks for an investigation of activities concerning the 1971 burglary of Daniel Ellsberg psychiatrist's office. The South Vietnamese government has indicated that it is ready to sign a joint appeal calling for an antihostilities in Vietnam. General Francisco Franco, ruler of Spain for the past 35 years, will turn over part of his duties to a fast rising Admiral in the Spanish Navy. Franco, now 80, is not completely retired only slowing down. A new kind of garden is beginning to appear in Berkeley California, called gorilla gardening, and consists of growing vegetable crops in front yards to try and combat the high cost of supermarket produce. The military government of Greece has announced that a presidential plebiscite will be held at the end of July. President Premier Georges Papadopoulos will be the only candidate. The second round of the 150,000 dollar Philadelphia golf classic was led by Jim Barber, who is sponsored by his grandmother. Barber led a large field with a 2 round 65, 7 under par. Secretariate, winner of 2/3 of the racing world's triple crown is pitted against a small field in tomorrow's Belmont Stakes. The record smashing thoroughbred is favored to win the hard to win race. Okay, the latest score on Houston is Astros ahead 4 to 3 in the 9th, and it's not over yet. Yesterday's scores, let's see I believe they had a Dogers fan and a Cubs fan and onboard. And they played each other , and the Dogers came out on top 4 to nothing.

PLT

You don't have to give those scores.

CDR

What place is the Astros in?

CC

Okay, Astros are 6-1/2 out now. And

Chris just tells me that the Cubs just won tonight 6 to 5.

PLT

How are the Cubs doing in the NLE?

CC

Okay, they're 5-1/2 out in front of

Pittsburg.

SL-II MC-741/2

Time: 21:45 CDT, 16:02:54 GMT

6/8/73

PLT Oh, isn't that nice.

CC And for the CDR's information we want to relay greetings and so on. And I think that's all the news for tonight. See you around Henry.

CC Good night Rusty.

CDR Say Rusty did you get my last comment about the damping in the water tank. That's would be the biggest thing that I could see is the difference out there.

CC Yeah. Okay, I got that Pete, thanks.

CDR Okay, and the other thing is that EVA station advanced station is super. It's so easy to work in there. It's unbelievable, you guys did great work designing it.

CC You mean even for a little guy you can reach all those things huh?

CDR Even for a little guy. I didn't complain about you one time.

PLT Hey I second that for the whole ATM run. Running up to the front end was like scampering up the stairs after being out there with that 25 foot pole in my hand. It was like coming home. It was easy as pie.

CC Okay, and for the job you did yesterday, everybody down here has been saying nothing but super all the time.

PLT Hey, there is somebody else who should be given a little accolade. and I don't usually give manufacturers commercials, but I think that the International Latex Corporation who built the suit, and the Garrett people, who built the PCU, we owe them a big vote of thanks for a super piece of hardware.

CC I think it was very notable yesterday that we never even thought twice about that. It was all just like normal.

PLT That's right.

CC Okay, we're about LOS now. We'll say good night to you. Get a good night's rest, and we'll see you tomorrow.

CDR Okay, looks like a good day tomorrow. Nighty night.

PAO Well the Skylab crew got a good night from the ground. We have one more bit of news information to pass on. This through the courtesy of Dr. Charles Ross. He pointed out that today's blood count which was performed by Dr. Joseph Kerwin on himself, was one more first. And that's added to the long list of many many firsts started by the Skylab space station. At 3 hours and 1 minute Greenwich mean time on the 367th revolution, this is Skylab Control.

END OF TAPE

SL-II MC-742/1

Time: 06:08 CDT, 16:11:08 GMT
6/9/73

PAO This is Skylab Control at 11 hours
9 minutes Greenwich mean time. We're about 2-1/2 minutes
away from acquiring radio contact with Skylab on its 372nd
revolution through the Honeysuckle Creek, Australia, Tracking
Station. And we expect that there is a very good chance we'll
hear from the crew during this station contact. We'll be scheduled
to put in a wakeup call to them if we don't hear from them
first. Over the night, things have progressed smoothly and
quietly in Mission Control. Flight Director Chuck Lewis
reports the coolant loop situation has remained stable; temp-
eratures are being controlled in the secondary coolant loop
at around 40 to 42 degrees. And data processing is continuing
to determine the status and sequence of events that cause the
primary loop to go down. Troubleshooting procedures are being
developed for the primary loop. The crew will have a rather
full day today. Major activities on the Flight Plan include
EREP, Earth resources experiment package, investigations over
the continental United States and also, for the first time this
mission, over South America. Also a number of ATM data taking
passes. We'll be bringing in about five ATM transmissions that
are being held at ground stations. And we also have TV
scheduled today - TV 6, which is coverage of the lower body
negative pressure experiment. The crew will be performing medical
experiments M092 - M171, the lower body negative pressure
and use of the bicycle ergometer, a metabolic study. Also
M131, the rotating litter chair. And we're about 15 minutes
from acquisition; we'll stand by for any conversation - rather
15 seconds from acquisition.

CC Good morning, Skylab; Houston. We've
got you at Honeysuckle for 7 minutes.

SC Roger, Houston. We're all up.

CC Very good. Be advised we're - the only
thing we've got scheduled for this pass is some updates to
the rate gyros.

SC Okay.

END OF TAPE

SL-II MC743/1

Time: 06:16 CDT, 16:11:16 GMT
6/9/73

CC Skylab, Houston. We're 45 seconds from
LOS. We're going to see you at Hawaii at 11:32.
PAO And we've had loss of signal now through
Honeysuckle after a "Good morning" to the crew and a response
that all three were up and about. We'll be again acquiring
contact through Hawaii in about 9 minutes 45 seconds. This
is Skylab Control at 11 hours 22 minutes Greenwich mean time.

END OF TAPE

SL-71 MC-744/1

Time: 06:30 CDT, 16:11:30 GMT
6/9/73

PAO This is Skylab Control. We're about to pick up communications through Hawaii, and we'll stand by for that. This pass will be a high elevation pass right across the middle of the Hawaiian Islands, about 9-1/2 minutes in duration.

CC Skylab, Houston. We're AOS at Hawaii for 9 minutes.

SC Roger, Houston. Say, I've got something for the stowage people, which came up yesterday in doing the K-22 transfers. In A-6 there were six UCTAs. Now as I remember it, originally there were suppose to be three. And we've done some more for this contingency business on activation. I guess we didn't use the extra three. So I have three that can be used for the EVA plus the normal three. And four (inaudible) are temporarily stowed in my TSP in my bedroom until I hear from them, where they'd like them to go. Or they can stay there until EVA and deactivation.

CC Okay. I got that. And I'll get them to think about that and get you word back, Pete.

SC Yeah, I don't think we have to break into anybody else's. And I don't think anybody else has to carry any others up there.

CC Okay.

CC Skylab, Houston. We've still got about 6-1/2 minutes left in this pass. I've got a couple of very minor changes to read up to you. One is on the Flight Plan in the friendly PLT's column. And the other one is on the ATM schedule pad. And any time that y'all have the pads out and can let me read them to you, I'd be more than happy to.

END OF TAPE

SL-II MC-145/1

Time: 06:35 CDT, 16:11:35 GMT

6/9/73

CC And any time that y'all have the pads out and could let me read them to you, I'd be more than happy to.

SC Okay, just a second.

CC No hurry.

SC Go ahead with the ATM one first, please.

CC Okay. On the ATM schedule pad, at time 21:10, the change is the building block should be 4 rather than 4-Alfa.

SC Okay, we got that, and go ahead with the PLT's Flight Plan.

CC Okay, on the PLT's Flight - on his column down and around 19:40 (actually his details show it at 19:47), it presently says S009 INIT, initiate. It should say S009 SET. We're going to start doing the S009 SET Procedure, which is a different page in the checklist. And there's another general message, which you probably already found, that has some changes to that particular page, but that's the only change on the Flight Plan.

SC Now all I have is about the general message that has a change to S009, I don't think. Got one for the TV procedures, but that's it. Can you give me a number?

CC Yeah, I will, Pete. I think the reason you haven't found it was we up-linked it at Honeysuckle, after y'all had already waked up, and it's probably in the teleprinter now. But the - but the message number, for your information, is 1623-Bravo.

SC 1623-Bravo. Roger.

CC Skylab, Houston. A couple of other things here. One is on update to your solar activity, just very minor. Active region 27 did produce a subnormal flare about 03:10 Zulu. Also the - the Y2, Yankee 2, rate gyro scale factor hasn't been as consistent as 1 and 3, and therefore we plan to select the configuration Y1/3 for control for today's activities. So next time one of you guys is up there, we'd appreciate you selecting 3/1 on the Y RATE-CYRO MONITOR switch. Also, another thing that occurred to us over the evening is over the many days we've been on orbit, we've sent you guys a heck of a lot of general messages. And with the amount of paper work we've been going through to straighten out which ones are still applicable or not, we were considering when we have a chance, probably tonight, we'd go through the whole pile of general messages we had sent and see which ones still apply. And then send you a list of those and make sure you still had them available to you. And if you didn't, we'd be more than happy to up-link them again.

SC Why don't you just go through the list and up-link them-period?

SL-II MC-745/2

Time: 06:35 CDT, 16:11:33 GMT
6/9/73

CC

Okay, we'll sure do that.

SC

We - we've been clamping them down and clipping them, but one thing or another they get pretty ratty anyhow, Dick. So it'd be a good idea if we know we got a new pile to start with. We could just go around and replace the ones that are still applicable and the rest throw away, and I think that'd help us keep a little cleaner, too.

CC

Okay. It'll probably get us to make sure we have them all squared away; so we'll do that. I am going to assume on the checklist changes and odds and ends and evening questions and that kind of thing - we probably won't go through them. But the systems kind of things we will go through, and we'll get them up to you.

SC

Okay.

CC

Skylab, Houston. We're about 20 seconds from LOS. We're going to see you at Goldstone at 11:43.

END OF TAPE

SL-II MC746/1

Time: 06:41 CDT, 16:11:41 GMT
6/9/73

PAO This is Skylab Control; it'll be a short skip over to the Goldstone tracking station. We'll keep the lines up for Goldstone acquisition which should be in about another minute and a half. And we'll continue up live for the pass that takes us across the top of the United States along the Canadian Border, above the Great Lakes, and out over the Atlantic across - just barely nicking the west coast of Africa.

CC Skylab, Houston, we're AOS Goldstone for 7 minutes.

SC Roger (garble).

CC Skylab, Houston. Be advised we're going to command the change that I told you about to Y-rate gyros. We're selecting 1/3 for control.

SC Okay, wait a minute. We're hanging on.

CC Okay.

SC Go ahead.

CC The solar wing.

CC Skylab, Houston, we're about a minute from LOS. We're going to have a short break, and see you again at Bermuda.

END OF TAPE

SL-II MC747/1

Time: 06:51 CDT, 16:11:51 GMT

6/9/73

CC Skylab, Houston we're AOS at Bermuda. We've got you for the next 6 minutes and if you guys are in position to listen I'll give you a little bit of run down on the - whether you might be expecting on your EREP pass this morning.

SC

Okay, go.

CC

Okay. The pass starts up in the north-west United States and the clouds are probably going to be clobbered up there in the far northwest. You should be breaking out somewhere overhead of - around Billings, Montana. There'll be a short period there where there will be kind of a broken condition and then you should have clear skies across the United States down somewhere in the area of Saint Louis. Then probably down in the southeast United States it also will be pretty bad weather for visual observations. And as you come down across the water heading towards South America it's going to be alternating clear and in some places overcast when you'll be doing the Nadir a line and looking at the ocean surface. Then as you cross the South American continent the first portion of that will be varying between broken clouds and overcast in some spots. Then about half way down there, particularly when you get over Brazil, from there until the end of the data take down in that part of the continent you should have clear skies.

SC

Okay, thank you, Richard. (Cleared throat.)

CC

Rog.

SC

Excuse me, what do you mean rog. I didn't say anything worth Roging there. The Great Lakes, and you can really see the midwest is sure clear wide open today. You say it's kind of cloudy around Houston?

CC

It's been so long since I've been outside I don't know.

SC

During the day anyway, huh?

CC

Crip says it's cloudy.

SC

Got so bad yesterday up where our friendly sunspot is that (garble) solar inertial air that we have marked up on the side of the boat. I went up there and stuck my belly up to the window just to feel some warm Sun.

CC

(Laughter) Roger.

PAO

Skylab Control, we'll have a short drop-out here until we regain contact through Canary Islands. During that past CAP COM Dick Truly advised the crew that the generally they get good weather for today's EREP pass which will be the first of this mission, collecting data over South America. Earlier it looked as if Brazil which is where the data will be collected was socked in with clouds but Truly advised that a bubble of clear air had opened up over part of the area where it's desired to collect data over the Amazon basin.

END OF TAPE

SL-II MC748/1

Time: 07:04 CDT, 16:12:04 GMT

6/9/73

PAO - - collect data over the Amazon Basin.
We should have about 15 minutes acquisition time over Canary
Islands and then down across the Ascension Island tracking
station, now in the 373 revolution.

END OF TAPE

SL-II MC749/1

Time: 07:08 CDT, 16:12:08 GMT

6/9/73

CC Skylab, Houston; we're AOS at Ascension for the next 8 minutes.

SC Okay, Dick. Since we got power back up the che - we had MDA wall heaters on?

CC Stand by.

SC I tell you, that's - that's not the real question. I'm just wondering because, and I'm sure the EREP guys are listening. That turn on - the S191 cord tape temperature was already reading 29 percent.

CC Copy.

CC Skylab, Houston; the MDA wall heaters are on, but we have not commanded anything during the night. They were also on when you went to bed.

SC Yeah, my real question is there must be there's a wall heater near the 191 cooler that's causing the escape temperature to be higher this morning than it's been.

CC Understand.

SC It's a, gee whiz, question.

CC Roger.

CC Skylab, Houston, either here at Ascension or more likely at Honeysuckle we'll be uplinking a small change to one of the building blocks for our good ATM people, but it doesn't take effect on your flight plan until tomorrow, so it doesn't take long but don't feel like you have to take any immediate action on it.

SC I understand this is an improvement rather than a change. Is that right?

CC That's affirmative.

SC Right.

CC Right.

SC Sounds like the flight director cut you off before you got it out.

CC That's right; right in the middle.

END OF TAPE

SL-II MC-750/1
Time: 07:20 CDT, 16:12:20 GMT
6/9/73

CC Skylab, we're 1 minute from LOS, we're
going to see you at Carnarvon at 12:47.

SC Roger.

PAO This is Skylab Control. That's all
we'll be getting through Ascension this revolution. And
our station contact chart shows we'll be reacquiring at the
Carnarvon tracking station in about 25 minutes. This is Skylab
Control at 12 hours 22 minutes, Greenwich mean time.

END OF TAPE

SL-II MC-751/1

Time: 07:45 CDT, 16:12:45 GMT

6/9/73

PAO This is Skylab Control at 12 hours
46 minutes. We're about to acquire through the Carnarvon,
Australia, Tracking Station, and this is a low elevation pass.
We could have noisy - noisy comm until we get solid lockup at
Honeysuckle Creek.

PAO Flight Director Milton Windler and his
team of flight controllers have taken over in Mission Control
from Flight Director Chuck Lewis and his team. The CAP COM
on this shift is Astronaut Robert Crippen, replacing Astro-
naut Dick Truly who held those duties during the night
shift.

CC Skylab, Houston. We're AOS over Carnarvon
for about the next 10 minutes.

SC Roger, Houston.

END OF TAPE

SL-II MC-751/1

Time: 07:45 CDT, 16:12:45 GMT

6/9/73

PAO This is Skylab Control at 12 hours
46 minutes. We're about to acquire through the Carnarvon,
Australia, Tracking Station, and this is a low elevation pass.
We could have noisy - noisy comm until we get solid lockup at
Honeysuckle Creek.

PAO Flight Director Milton Windler and his
team of flight controllers have taken over in Mission Control
from Flight Director Chuck Lewis and his team. The CAP COM
on this shift is Astronaut Robert Crippen, replacing Astro-
naut Dick Truly who held those duties during the night
shift.

CC Skylab, Houston. We're AOS over Carnarvon
for about the next 10 minutes.

SC Roger, Houston.

END OF TAPE

SL-II MC-752/1

Time: 07:51 CDT, 16:12:51 GMT

6/9/73

CC Skylab, Houston. We just up-linked you a couple more teleprinter messages and those should be the last for the day. Or the last for this morning, anyhow.

CC Skylab, Houston. We had - -

CC Skylab, Houston. We had a little drop out between Carnarvon and Honeysuckle. We've still got a couple of minutes to go on this pass. We've just up-linked our last two teleprinter messages for this morning.

SC Okay.

SC Say, Crip. I just moved some EREP Tape around that I remembered down in the locker at D412. EREP Tape T-7 has red tape on it. And it was put on there by one of your very very early messages, when we were still fairly hot down here in the workshop. And I opened the can and inspected the tape, and the tape looks fine to me. And perhaps, there's some other reason that the EREP people decided not to use T-7. But, we had a few minutes, so I inspected the tape. It looks perfectly good to me. If they want to use it, it has not been affected by the heat anyhow, that I can see. And they may want to reconsider using that tape. I have it red flagged right now.

CC Okay. Fine. We'll put that in the mill and give them that option. Thank you.

CC And Skylab. We've got about 30 seconds to go on this pass. We'll see you again at Hawaii at 13:10 - 1, 3, 1, 0.

SC 13:10. Bye, bye.

PAO This is Skylab Control. We'll be up again over Hawaii in about 14 minutes. And as the crew approaches another stateside revolution on the stateside pass, on this 373rd revolution, and they'll be preparing for EREP operations, the Earth Resources Experiment Package, which has 28 minutes of data gathering today, also ATM operations. The EREP pass extends from the northwestern United States to St. Louis, Missouri, on across Puerto Rico, and across the northeastern portions of Brazil. The photographic and electronic sensor data on this EREP pass will be used by investigators in snow mapping in the Cascade Mountains. They'll be doing geological studies in the Continental U.S., forest inventory in Georgia and Alabama, and resource evaluation programs in Puerto Rico and Brazil. At 12 hours 58 minutes, this is Skylab Control.

END OF TAPE

SL-II MC753/1

Time: 08:09 CDT, 16:13:09 GMT
6/9/73

PAO This is Skylab Control, at 13 hours 10 minutes with Skylab coming up on Hawaii. We'll bring up the line for that pass now.

CC Skylab, Houston; we're AOS over Hawaii for about the next 5 minutes.

SC Okay, Houston. You guys get rid of our bat charge light for us on the ATM panel?

CC Verify that you have a bat charge light on your ATM panel, we'll look at it.

SC Okay, (garble) to bat 3; CPRM 3. (garble)

CC Roger, Pete. You're too low right now. I really can't read you. Could you speak up, or get a little closer to the mike?

SC Roger. We have a bat charge light CBRM3, and I think it's cause you guys have been playing with CBRM3. Will you take care of it?

CC Roger.

SC Hey, Crip, this is another curious question. Ask the EREP people why we're using a different magazine on the (garble) today, will you please?

CC Okay.

CC Paul, the story we get here is that because DH01 has been reading 50 percent for two days in a row. They think maybe it's stuck and that's why they asked you to switch.

SC Well, I thought it might be that. And if you get them, they know what it looks like. But that's a pretty gross reading. In the last two passes all I've done it take about - on those Houston passes all I took was the few seconds it takes to go from about 20 percent forward to half the nadir and I think those are reasonable readings. the noise level of how close you can read that assuming you're already running the camera 20 seconds for each of the last two passes.

CC Okay, we copied that, and will take it into advisement. Thank you, Paul.

SC Okay. Also, for the flight plan, I think we have wiped about 30 minutes off of the required EREP PREP.

CC Understand it requires about 30 minutes less than what we've got scheduled.

SC That's right.

CC What are you trying to do, sleep late?

SC No, no. We just want to get more done during the day. And it turns out that we may get ahead on the EREP PREP.

CC Okay, Paul, just joshing you.

SC Yeah, I should of done that, okay.

SL-II MC753/2

Time: 08:09 CDT, 16:13:09 GMT

6/9/73

SC Hey, also, ask hard support guys back there,
George Laski and his people, if in the EREP checklist, if it's
okay yet to delete all the pink write-ins. They'll know what
I mean.

CC Okay, yeah, they will. We'll check it.
CC Skylab, Houston, we're about 30 seconds
from LOS. We'll see you again over Goldstone at 13:23. 1323.

SC Okay.

PAO This is Skylab - -

END OF TAPE

SL-II MC-754/1

Time: 08:16 CDT, 16:13:16 GMT
6/9/73

PAO This is Skylab Control. We're out of radio contact now; be about 6 minutes before we regain contact through the Goldstone Tracking Station. During that pass over Hawaii, the crew again advised they had a BATTERY CHARGE light on CBRM-3. This is an inactive unit, and the light apparently coming on. And that is turned off by a ground command, or can be turned off by a ground command, and Conrad asked that we do so. Paul Weitz also questioned a request to change one of the EREP magazines, and the ground re-confirmed that the change was requested, because the magazine had indicated 50 percent for some time. Weitz reported he felt that was a valid reading, that the indication was a fairly gross one, and that the amount of film that had been taken in the last few passes probably would not have shown much of a change in that indication. Weitz also advised that EREP preparations appear to take less time than anticipated; requested that in future planning we reduce the amount of time allocated for that operation by about 30 minutes in order to squeeze more into the Flight Plan. At 13 hours 19 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-755/1

Time: 08:21 CDT, 16:13:21 GMT

6/9/73

PAO This is Skylab Control. We're about to pick up the spacecraft through the Goldstone tracking station. We have about 50 seconds until acquisition for this stateside pass. Currently in the 373rd revolution, we'll be passing over into the 374th.

CC Skylab, Houston. We're AOS over Goldstone for about 6 minutes.

CC Skylab, Houston. We've got a couple of minutes drop out here, over the top of the states and we'll see you again at 13:31 - 1, 3, 3, 1.

END OF TAPE

SL-II MC-756/1

Time: 08:30 CDT, 16:13:30 GMT

6/9/73

CC Skylab, Houston. We're AOS, once more, over Bermuda for about the next 11 minutes, for about the next 1, 1 minutes.

CC And Skylab; Houston. If we've got somebody available, we need to make a small adjustment in our power situation, prior to this EREP.

SC (Garble) We're looking and taking pictures right now, Crip. How about next AOS?

CC That'll be fine, Pete. Thank you. (Garble).

SC Tell us briefly what you want; maybe we'll do it when we get back up there.

CC Okay. All we're going to do is take and move the REG ADJUST pots on BUS 1 and 2 counter clockwise, about 30 degrees, to move about 10 amps down toward the transfer bus, on both buses.

SC Okay. You want to shift 10 amps more from the ATM to the transfer buses; that's 10 amps per BUS.

CC That's affirmative.

SC Okay. We'll take care of that for you.

END OF TAPE

SL-II MC-757/1

Time: 08:37 CDT, 16:13:37 GMT
6/9/73

CC Skylab, Houston. We're 1 minute until
LOS. We'll see you again over Ascension at 49, 13:49.
PAO This is Skylab Control. We're out of
range now of the Bermuda Tracking Station, and we'll be
coming in again through Ascension in about 5 minutes. Flight
Director Milton Windler has been reviewing the status of
ATM and EREP experiments with his flight controllers.
Coming up on the next stateside pass, the 374th and 375th
revolutions, we'll have a full length EREP pass, some
28 minutes, down across the United States, over Puerto Rico,
and across Brazil. This is Skylab Control at 13 hours
45 minutes.

END OF TAPE

SL-II MC-758/1

Time: 08:47 CDT, 16:13:47 GMT
6/9/73

PAO This is Skylab Control at 13 hours 48 minutes, about 1 minute away from acquisition at Ascension. Following the Ascension pass, we expect to have the change-of-shift press briefing in the MCC briefing room, room 135 in building 1, with the off-going flight director, Chuck Lewis. Again, that press briefing will begin in a few minutes. Our best estimate at this time is that it will be immediately following the Ascension Station pass, which is scheduled to last for about 9 minutes.

CC Skylab, Houston. We're AOS over Ascension for the next 10 minutes, for the next 1, 0, minutes.

SC Okay. (Music)

CC That's lovely harmony.

SC The machine quit just as I started it.

Was going to play my alma-mater (garble).

CC Elow the whole thing.

SC Right.

CC Speaking of reunions, I did get Pete's request off yesterday.

SC Good for you.

CC And also, regarding that CBRM-3 BATT CHARGE light, we've had a heater off on that particular CBRM, which we've just turned back on, and it will probably be a rev or two before we'll be able to reset that light for you.

SC Okay, Crip. Thank you.

SC How's that (garble) set-up look now, Crip?

CC Okay, that looks good now, Paul.

SC All right.

SC (Music) There.

CC How sweet it is. I'm sure all of your alumni will have appreciated that.

PAO This is Skylab Control. We have about 4-1/2 minutes remaining in this Ascension pass. Flight Director Chuck Lewis is enroute to the News Center for the change-of-shift press briefing, which we expect will begin immediately after loss of signal through Ascension.

SC Houston, you there?

CC That's affirm; go ahead.

SC How long we got?

CC About 3 minutes.

SC Okay, Pete and I are looking at the S190 glass. And for the EREP people, if you look in the front of the - of a camera (garble), you can see, not counting the filter rings, there are two slotted rings where I think probably holds lens elements in there. The second one in from the front, which apparently holds the (garble) lens, our lens in there - it looks to us that it's got a - if you shine a flashlight

SL-11 MC-758/2

Time: 08:47 CDT, 16:13:47 GMT

6/9/73

in it, it's got a lot of little tiny specs, either in it or on it. Now we don't remember it having been so noticeable before. I don't know what to do. There's nothing we can do about it. We can't get to it. As I say, it's a (garble) element. Looking into the clock, with the shutter open, it makes the whole thing look very dusty. I'm apprising you of it for whatever it's worth.

CC Okay, PJ, I think we copied all of that.
Let me make sure that our EREP people got it.

CC PJ, would you say again which camera
that's on, please?

SC It's on all the stations of the S190
camera.

CC Oh, it's on all of them. Okay.

SC Yeah, that's the thing that makes me
suspicious; it's fairly uniform through all of them. I tell
you what it almost looks like is a fine coating of dust, if it's
something on it, or it could - you know, which I (garble) that
glass. It looks like a whole bunch of little tiny bubbles all
through the glass.

CC Okay, looks like dust or tiny bubbles.
Okay.

SC Yeah, maybe the - Well, let us know. We can
try to get some pictures of it later for you, if you want.

CC Okay. And we're about 1 minute until LOS, and
we'll see you again at Carnarvon at 14:22.

CC And wish somebody can take a look at the
ATM C&D; we need to verify that H-alpha is still in AUTO.

SC Okay.

CC Okay.

SC It's in AUTO.

CC Thank you.

SC Hey, Crip, I had it in NORMAL and AUTO,
but I get (garble).

PAO This is Skylab Control. We've had loss
of signal now through Ascension, and we're ready at this time to
switch to the JSC News Center briefing room for our change-of-
shift press conference at 14 hours Greenwich mean time.

END OF TAPE

SL-II MC-759/1

Time: 09:20 CDT, 16:14:20 GMT

6/9/73

PAO This is Skylab Control, about 1 minute from regaining radio contact with Skylab through the Carnarvon, Australia, tracking station. Now on the 374th revolution. On this revolution and also into the next one, the crew will be involved in EREP activities, Earth Resources Experiment Package, and also ATM operations. This acquisition through Carnarvon and also up then through Guam. We'll have a total of about 11 minutes of acquisition through, through Carnarvon. And about 10 minutes it appears through Guam. Both of these are very high elevation passes. Eleven minutes, for about 1, 1, minutes.

SC (Garble).

CC And I know you guys are beginning to love this, but I need to get that REG ADJUST pot tweaked again on 206.

SC Go ahead; what do you want?

CC Okay, we want REG BUS 2 turned counter-clockwise, correction, clockwise to balance the amp outputs on 1 and 2.

SC (Music) (garble)

CC On PCG, total 1 and 2 is what we want to balance up.

SC You want to balance up PCG total 1 and 2 with (garble). Right?

CC CDR, you were basically unreadable that time. I - Again, we wanted to turn REG ADJUST pot clockwise to balance the loads on, correction, REG ADJUST BUS 2 to balance the loads on PCG total.

SC Okay.

SC Okay, Crip, both PCG 1 and 2 are putting out 38 amps each.

CC Roger, 38 amps, and that looks good from here.

SC Besides, you people are competing with the Nashville Brass during our rest period here.

CC Roger.

SC (Garble).

CC Sounds pretty loud in the background. By the way, as we went over the hill last time, Joe was trying to tell me something about H-alpha, and all I understood that - was he was in NORMAL and AUTO, and something happened and that was all I got.

SC But he brought the system up, Crip, he brought it up after sunup and we didn't get an AUTO START.

CC Okay.

SC Everything's okay.

CC Roger, we copy.

SL-II MC-759/2

Time: 09:20 CDT, 16:14:20 GMT

6/9/73

SC And the S191 guys ought to be real happy now that we've got the heat in the MDA. It started out with a (garble) - cooler to start with, we now have a (garble) #191 READY light. And Charlie-7 is reading 58 percent, and Baker-7 is all the way down at 30 percent.

CC Roger, Pete. You got so much background noise, most of that was unreadable.

SC I don't know what you're picking up, must be picking up the cooler noise, I don't have any (garble) going, how do you read now?

CC It's still there. Would you give me these numbers again on 191, please?

SC Okay, we're going to go to another vox. That's the cooler noise, Pete, he can hardly hear you for all that noise from the 191 cooler.

CC Yeah, PJ, you're coming through loud and clear.

SC Yeah, I know. How do you read on this vox?

CC That's beautiful.

SC Okay, that must be the cooler noise that you're picking up, that's the - SIA 102 was right on top of the cooler. Baker-7 is reading 30 percent, Charlie-7 is reading 53 percent. And I have a READY light and it only took about 15 minutes to get the READY light from the time we brought the cooler on now.

CC Okay, we copy. That does good.

SC I think that probably your next EREP, you could go back to the normal warmup time line.

CC Okay, we'll put that in the mill.

CC And Skylab, Houston. I don't need any feedback on it right now, but we're reviewing some of your voice transcripts, I noticed the other night Joe was having some problems with the H-alpha 1 TV, and it was right after you came out of that pitched up attitude, it apparently appeared to be out of focus somewhat. Apparently in our opinion that was a thermal problem, because we hadn't had, didn't have all the thermal systems back on and have temperature up to spec. And we expected it should be looking good now and some time we'd like to get the feedback on that.

SC H-alpha 1's beautiful now.

CC Very good, thank you.

CC Skylab, Houston. We're 1 minute till LOS, we'll have you again at Guam at 14:34 and we will be doing a data voice recorder dump at that point.

END OF TAPE

SL-11 MC760/1

Time: 09:33 CDT, 16:14:33 GMT

6/9/73

PAO This is Skylab Control. We appear to have loss of signal now through Carnarvon. Our next station to acquire will be the tracking station on Guam. The EREP officer here at the Control Center reports that a frontal system that the crew is going to track on this EREP pass over the Appalachian Mountains, appears to be dissipating. And the plan at this point is to modify the pass in that area; track some cumulonimbus clouds; look for thunder storm buildup in lieu of tracking and collecting data on the front which apparently is rapidly dissipating. We'll be picking up coverage through Guam in about 1 minute. We'll leave the line up for that pass.

CC Skylab, Houston; we're AOS over at Guam for the next 10 minutes, for the next 10 minutes. And PJ, if you get a chance I need to talk to you about your VTS pad.

SC He's coming.

CC Okay.

SC Okay, Crip, go ahead.

CC Roger. You were - you got your VTS pad handy, you were given a special 06, which dealt with the frontal system.

SC Yeah.

CC Okay, that frontal system has dissipated. And what we would appreciate it if you could do is that the time 08:23 could just go ahead and track nadir for a couple of minutes. And then we want you to lock on - after a couple of minutes of that, we'd like you to lock on the biggest thunder bumper you can find and track it until 11:34.

SC All righty, that's most uncooperative of that stinking front wasn't it?

CC Yeah, afraid so.

CC And Skylab, Houston, just a reminder, the - we show your TACS are still inhibited and we may need them a little bit on this VLV maneuver.

SC Okay, Crip. We may have boxed ourselves there when we switched cue cards.

CC Yeah, afraid of that.

CC We'll - we'll take a look at that TACS inhibited enable for maneuvers to make sure we're squared away.

SC Thank you. The checklist changes are all made but we'll have to change that cue cards.

CC Okay.

END OF TAPE

SL-II MC761/1

Time: 09:41 CDT, 16:14:41 GMT

6/9/73

CC Skylab, Houston. We're 1 minute until LOS.
We'll see you again at Goldstone at 15:00. Happy EREP.

SC Thank you.

PAO This is Skylab Control at 14 hours 46 minutes Greenwich mean time. And we've had loss of signal through Guam. The next station to acquire will be Goldstone, at which time we'll be in the midst of our first full duration EREP pass of the mission. Twenty-eight minutes of data-collection across the northwestern United States to St. Louis, down over Puerto Rico, and across the northeastern portion of Brazil. All of the EREP sensors will be in operation - the S190 series, the altimeter, the radiometer, the scatterometer, and, for the first time, the earth terrain camera. Also, the crew will be using the visual tracking system. Now you heard during that pass over Guam some instructions given to them on the use of the visual tracking system. The earlier plan had been, among other things, to track a frontal system across the Appalachian Mountains. That front is dissipating. And the crew has been advised to instead look for a large cumulo nimbus build-ups and also, to try to track the biggest thunderstorm that they can find in that area. They'll also be collecting data over Holt County, Nebraska, for cropland surveys. And they'll be looking at tradewind cumulus clouds over the Atlantic, near the West Indies. Now the data - that will be used by principal investigators in snow-mapping the Cascade Mountain area; also be assisting in geologic studies over the continental U.S. (in the continental U.S.) and the forest inventory in Georgia and Alabama. Also resource evaluation programs in Puerto Rico and Brazil. We have about 12-1/2 minutes remaining before we again establish radio contact for the stateside pass for the first station up to be Goldstone. This is Skylab Control, Houston.

END OF TAPE

SL-II MC-762/1

Time: 09:58 CDT, 16:14:58 GMT

6/9/73

PAO This is Skylab Control at 15 hours
Greenwich mean time. We've had early acquisition; we'll pick
up the conversation with the crew over Goldstone.

SC Mark the time to uniform crop line areas.

SC Okay, mark 1 minute to EREP START.

SC They ought to big in Nebraska this year.

SC See, what we do is we apply this in a
practical manner, we see how the corn crops' going to go
and with that you find how the pheasant crop is going to be.

SC Right.

CC We got you in voice contact guys, throughout
the pass.

SC Oh, okay.

SC 30 seconds to EREP START.

SC We over Washington, Joe? It looks I can
see Puget Sound through the clouds.

SC We're about to be, yeah, I guess. Yeah,
I'm looking ahead.

SC It looks clear south, but it's pretty
cloudy - -

SC - - EREP START. Got a tape motion light.
ID4 mode manual.

SC Standing by to start S192.

SC Okay, for information, for the follow-on
crew, when I slew the VTS4, which is 23 degrees, I could
see the radio docking tunnel. How about that?

SC Okay, Joe, you have 30 seconds to ETC.

SC Okay.

SC MARK S192. I got a READY light.

SC We just cannot follow the clouds, how
about that?

SC AUTO sequence START on 90 and you can
ETC, Joe.

SC The ETC is on.

SC Thirty-eight. The REV's on. ETS AUTO CAL,
please.

SC Okay, right now?

SC Yes.

SC (Garble) went out.

SC Okay, for information, nadir is crossing
over some clouds, starting now.

SC RAD to STANDBY. Right to minus 30 roll.
24, SCAT to STANDBY, at 24. PS to STANDBY, 30, altimeter ON,
altimeter is off.

SC Okay, I got a good board read on the tape
to tape motion, and made a nice smooth shift when 92 came off
got a green on S190. Got a green on S193 altimeter and a green
on S194. (Garble) no half light, looks good. Waiting for 191 to
come on.

SL-11 MC-762/2

Time: 09:58 CDT, 16:14:58 GMT

6/9/73

SC It's reading okay now.
SC Yeah.
CC Where'd you have it, in ??
SC Yeah.
SC Got a READY light on the S191. Bravo 7 is
30, 3, 0.
SC Got a good cornfield?
SC Yes, I'm trying to find a uniform crop
line here.
SC You can really see the circular areas
where they irrigated that walk-around stuff, you know. There's one
there, and I'll try to. Okay, tracking it good, the Holt County
Nebraska, field there. The field is slightly larger than the
reticle in the cross hairs.
SC Can you give me a quick answer, Houston, on
if you'd like the whole field the same way, or would you like to
switch to another one?
CC We'll check that for you. Same field
all the way.
SC Okay.
SC MARK. Mark altimeter to STANDBY, 92 to
check. RAD, ON; SCAT ON. Got a good green board. A little
RAD/SCAT gimbal (garble) every once in awhile, but that's
normal.
SC Hello, Houston. If the sun is behind us,
it got quite hard to see, looks like we got hazer and hazer as I
went through nadir. The sun is behind us and maybe it's cause
they're looking up, Sun?
CC Copy.
SC 23.
SC Okay, I'm tracking nadir now.

END OF TAPE

SL-11 MC-763/1

Time: 10:08 CDT, 16:15:08 GMT

6/9/73

SC - - (garble) NADIR now. I'll give them the
data push button when I got my CB, if I ever pick it up, Crip.
SC SCAT to STANDBY. RAD to STANDBY.
SC RAD ON. SCAT ON.
SC And I'll say that front's good
SC (Garble) stations of 4; Bravo-7 still
hanging in there at 30, 3, 0.
SC Haven't found a thunderstorm head, Crip.
I'm on a building Q right now; I'll get a few shot in and
then try to switch to something else.
CC Okay.
SC SCAT to STANDBY; RAD to STANDBY; MODE,
CROSSTRACK contiguous; and 193 NADIR ALINE.
SC No real CBs in the area, Houston. I got
a couple (garble) - the best I could do for you.
CC Okay.
SC (Garble) southwest tip of Florida, but I -
but they may be out of your range.
SC Yeah.
SC I've got a READY out on S190 on time.
MODE to STANDBY, ETC STANDBY, Joe. 190 intervelometer.
SC Crip, are you picking up that cooler
noise through these mikes also?
SC ETC AUTO. Right. We went STANDBY, we
changed the (garble), and we're back to AUTO.
CC I'm picking up a hissing noise. Yes, Paul.
SC I think that's the VOX.
SC I heard S009 just start to open.
SC And that's really doing a good data
aline this time.
SC Is it?
SC Yes, sir. It's really hunting for it.
SC Really (garble) in on it now, yeah. Yeah,
it looks like a good data align, Houston.
CC Great.
SC I don't know what I was doing the last time
(garble).
SC You were putting the range setter on?
SC Huh?
SC Maybe it - you didn't have the right range.
SC Yeah, well I changed it from 78 to 76.
SC (Garble) it's really finding out.
SC It's moving much slower than the simulator
does, isn't it?
SC Yeah.
SC Okay, that's a good one.
SC Yeah.

SL-11 MC0763/2

Time: 10:08 CDT, 16:15:08 GMT
6/9/73

SC The feet are moving much slower than the simulator used to.

SC It (garble). Alfa 1 is 41 and Bravo 1 is about 51 and Charlie 1 is about 86. But it's still looking.

SC Well, it winds up in a little square; it never does stop.

SC Yeah.

SC I've got to get through - -

SC (garble) state.

SC Yeah.

SC Final angle.

SC 1509 to STANDBY. STANDBY MODE. READY ON (garble) 93A to MODE 5. 1524, 93A on.

SC MARK ON.

SC READY out at 1849. Okay?

SC For 1910, 93A to STANDBY. 92 to MODE CHECK. Okay.

SC Hey, Houston. This meter (garble) over the water for 191 is mostly open water and occasionally (garble), as you may guess, some cumulus.

CC Copy.

CC One minute to LOS; Carnarvon, 16:00.

SC Okay, see you at Carnarvon.

SC You going to get another AUTO CAL?

SC Yeah.

SC (Garble) 2020.

PAO This is Skylab Control. We have a fairly long drop out now between ground stations. It'll be about 40 minutes before we regain communications with the spacecraft; that'll be through Carnarvon, Australia. And on that pass, the major activity, of course, was operation of the EREP experiments. Judging from the communications from the crew and from Pete Conrad, who was calling out the various experiments as they were turned on and the off, everything appeared to be functioning smoothly. Synopsis of the weather: the north - northwestern part of the United States and the southeastern parts appeared to have the heaviest cloud cover, with a fairly general overcast in the northwest and also down towards the southeast - Georgia and the Florida panhandle. The middle part of the country generally clear to partly cloudy. And then picking up cloud cover again out over the Caribbean and also over the Puerto Rican Trench, which was one of the targets. The weather prediction in the Puerto Rican area was that the cloud cover would be broken, leaving the possibility of getting part of that objective. Quite a bit of cloud cover over Brazil, but the - one of the areas of prime

SL-II MC-763/3

Time: 10:08 CDT, 16:15:08 GMT

6/9/73

interest in Brazil was clear and the Amazon Basin. In general, the weather would have appeared to be quite good for that EREP pass, with the exceptions noted. To correct a previous announcement, the Earth Terrain Camera was being used for the second time in this mission, on the current EREP pass, rather than the first time as previously reported. And we have about 39 minutes now until we reacquire them over Carnarvon. At 15 hours 22 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC764/1

Time: 10:57 CDT, 16:15:57 GMT
6/9/73

PAO This is Skylab Control; at 15 hours 59 minutes Greenwich mean time. About 1 minute away from regaining radio contact through the Carnarvon, Australia, tracking station. And during the EREP pass, EREP control officer in the Control Center reports that all equipment appeared to be functioning very well, and he considered the pass highly successful. The people in the backrooms were especially impressed with the crew's ability to lock on to a particular target, a field in Nebraska, and apparently they were able to track the thing right through the pass.

CC Skylab, Houston; we're AOS over Carnarvon for about 6 minutes.

SC (garble)

SC Hello, Houston. How's that?

CC Much better.

SC Okay, I'd like to relay on behalf of the

PLT that it's - it's really not very convenient for the flight plan to schedule BT during an M092 171 run. It's gets kind of crowded there around the experiment equipment.

CC Okay, I was wondering about that. How about the other day in the showers? We also had scheduled it the same time there, was that too crowded?

SC Well, we had to do a little dance around it. In fact, we - we slipped one or two of the showers until after. You can't ride the bike and take a shower at the same time.

CC Okay, I was worried about that. We'll so note.

SC It worked out okay, but we had one shower and we secured it - bolted it down to the experiment then resurrected it again.

CC Roger.

SC And another little flight planning note, I missed a filter change on T003 this morning because it was on my detail pad which I got after I did T003. You might want to send it down the night before if it's a morning change.

CC I noted it should have been sent up last night.

SC I didn't - I didn't get it. It was in the - it was in the - the load of teleprinter paper that the PLT goes up and gets while I'm doing T003.

CC Yeah, what I suspect what happen was that it was after - You were never told that it was up there.

SC Well, I - we normally get our details in the morning.

CC Roger. We are sending those up in the evening though.

SC Oh.

SL-II MC764/2

Time: 10:57 CDT, 16:15:57 GMT

6/9/73

SC Hey, Crip, what time you sending them
up in the evening?

CC We're trying to send them up before 2300Z.

SC Oh, I don't think we had any before 2300Z
yesterday.

CC You're probably right, Pete. We been trying
and we been - been running late due to a lot of late flight
plan changes down here, but that's what it - that's our goal
anyhow.

PAO This is Skylab Control; we're now receiving
ATM Apollo telescope mount video. A calibration run which
was - is being fed in from one of the ground sites. We have
a number of ATM transmissions which have been downlinked to
the ground sites and we plan to bring those in for a - -

CC For your info, you are correct that was
called out in your - in your detail pad. And we did get it up
but - apparently a little bit later than when you were expecting
it. We also put that T003 in the remark section of the summary
flight plan too, just to cover the case where it is coming up late.

SC Okay, fine, I don't remember looking at
the summary last night, but I'll be sure and configure it.

CC Roger. Those remarks are kind of (garble).

CC And Skylab, we're 1 minute till LOS. We'll
have you again at - at Guam at 6 - 16:14, 1614.

SC Okay.

END OF TAPE

SL-II MC765/1

Time: 11:05 CDT 16:16:05 GMT
6/9/73

PAO This is Skylab Control: at 16 hours 9 minutes. We'll be reacquiring Skylab through the Guam tracking station in about 5 minutes. And we'll be receiving video of the Apollo telescope mount television for about the next 20 minutes or so while we're - while we have the lines up in preparation for the live television scheduled during the next stateside pass when we have Goldstone acquisition. Goldstone acquisition for TV6, which is television of the lower body negative pressure experiment, is predicted for 16:37 Greenwich mean time. And our loss of signal on that stateside pass will be about 16:53. TV6 will probably run longer than the 16 minutes or so that we have acquisition on the upcoming stateside pass, in which case the remainder of video for that particular telecast, will be dumped on the subsequent revolution - revolution over Goldstone. Any remaining on the video tape recorder would have to be held until the next stateside acquisition which would occur in the early hours of the morning. The revolution coming up after this one, revolution 377 - rather 376, will be the last stateside pass - the last opportunity that we have to bring onboard video into the Continental United States until tomorrow. And we do not know precisely how much video the crew will have on the video tape recorder. We have about 22 minutes total acquisition time in this revolution and the succeeding revolution which was the opportunities that we have to get the video tape recorder dumped to the ground. Anything that remains on the video tape recorder would have to stay there until the next stateside acquisition. We're now about 2 minutes away from reacquiring through Guam. We'll leave the lines up live for that acquisition. And we expect to have about 5 minutes 45 seconds of contact through Guam.

END OF TAPE

SL-II MC-766/1

Time: 11:12 CDT, 16:16:12 GMT
6/9/73

CC Skylab, Houston. We're AOS over Guam for the next 6 minutes.

CC Skylab, Houston. Our congratulations on that EREP pass that you just went through. It looked real good and sounded good from this end and we're assuming that the last portion of it went as well as the first.

CC And a little reminder; upon - the next station pass is going to be at Goldstone at around 16:37 and it is at that point that we're going to doing the computer switchover. So we'll, of course, want you to not be using the DAS operations and we assume it shouldn't ring any bells for you.

SC Okay, Houston.

CC Skylab, Houston. We're one minute to LOS. We'll have you again at Guam at 16:37, at which point we'll be doing a data voice recorder dump - correction, at Goldstone. And we'll also be doing the recorder switchover - correction, computer switchover.

SC Okay.

SC You still there, Crip?

CC Affirm.

SC We have two questions for the EREP people. One is, that vent plug on the 191 window projector, do they want it left where it is? And second, the desiccates on the 190 are getting almost white again. I want them to consider whether or not I ought to change them, and maybe try to make 'em come out.

CC Okay. We'll ask, and try to get an answer for you over the tape.

SC Okay.

CC Skylab, Houston. If you still read, when you complete your TV recording we would like you to start a rewind on the VTR.

SC Okay.

PAO This is Skylab Control. We're now out of range of the Guam tracking station. Our next acquisition will be through Goldstone, at which time we expect to be relieved - receiving television of the lower body negative pressure experiment. Toward the end of that Guam pass, CAP COM Bob Crippen passed along a request to the crew, that if they complete TV 6, the coverage of the lower body negative pressure activity, they rewind the tape recorder. The plan is, if that do not complete putting the experiment coverage on the tape recorder, we will tape the remainder of it live. And then do a replay in the current stateside acquisition during the current revolution, if possible. We'll get as

SL-II NC-766/2

Time: 11:12 CDT, 16:16:12 GMT
6/9/73

much of that replay on the following stateside pass as possible. We have now about 13 minutes until we reacquire through Goldstone. This is Skylab Control, Houston.

END OF TAPE

SL-II M0927/1

Time: 11:35 CDT, 16:16:35 GMT
6/9/73

PAO This is Skylab Control at 16 hours 35 minutes. Now we expect to acquire at Goldstone in about 2 minutes. And we're also expecting television on this stateside pass of the M092 lower body negative pressure experiment. We had originally expected that this experiment would be going on live while we had stateside acquisition, however, it appeared the crew was running a bit ahead of schedule and was putting a portion of that experiment on the video tape recorder. The last request passed along to the crew prior to loss of contact through Guam was to rewind the tape recorder to the beginning ready for immediate replay should they finish the experiment and complete their TV coverage of it prior to acquisition. We did not get acknowledgement of that request. It went in quite close to the time of loss of signal, but we believe that it did get through to the crew. We could be getting this television either live or a replay from the onboard video tape recorder.

CC Skylab, Houston; we're AOS over the states for a nice long pass about 12 minutes, and we will be doing a data voice recorder dump plus a computer switch-over.

PAO We're receiving television now. This is a TV tape replay. The television was put on the recorder by the crew and apparently completed - completed the activity and got it all loaded on their onboard tape recorder. We should see it as from - from the beginning, and we'll probably not get the entire tape load dump this pass.

PAO We're watching now as Joe Kerwin assists Pete Conrad in getting into a lower body negative pressure device.

CC Skylab, Houston. For your information we have switched computers and everything looks good right now. And regarding PJ's question earlier, we do want to leave the vent plug in the 190A. And we noted the color of the desiccants and we will be thinking about changing them at some later time.

SC Okay, Houston.

CC We're also getting to watch your TV playback of the LBNPD operation. I think it shows (garble) in how easy you get around and climb in that thing.

PAO On the television right now, Pete Conrad is attaching the waist seal. It looks as if he's largely completed that and is getting ready to attach the arm cuff while Joe Kerwin is attaching a leg band measures the volume, leg volume. After these activities are complete, the two halves of the lower body negative pressure device will be brought together, closed up and sealed.

SL-11 MC767/2

Time: 11:35 GDT, 16:16:35 GMT
6/9/73

SC What's this half all about, Houston?
CC Say again.
SC We just got an ACS half caution.
CC Roger, understand, an ACS half caution. We've
loss data here right now, so it could be associated with the
computer switch overthing. We better - -
SC We got it. It's the rate gyro.
CC Okay, that's probably it because we didn't
get a drift loaded in the thing.
SC Roger, it's a Z, we're in gyro 2 only in Z.
CC Copy.
CC And Skylab, Houston. Paul, was that you
I was talking to on - regarding the half condition?
SC No, it was Joe.
CC Okay, Joe, I guess we can't get data. What
we'd like you to do is to load the rate gyro drift that we
had sent up on the last message - message number 1624.
We would - after you load the drift we would like for you to
select gyros 2 and 3 in the Z-axis.
CC You copy that, Joe.
SC Houston, should I load only the Z drift
or all of it?
CC We'd like you to load them all to see
the most significant one.
SC Okay, soon as I get Pete out of the LBNP
I'll go up.
CC Okay.
CC And, Joe, I guess we'd like to do one more
thing up there. We'd like you to use your switch to select
computer timing.
SC Roger.

END OF TAPE

SL-II NC-768/1

Time: 11:47 CDT, 16:16:47 GMT

6/9/73

SC Houston, SPT.
CC Co ahead.
SC What Z configuration did you want me to
select after I get drift in?
CC Roger. We want you in Z-2 and 3, re-
dundancy management enabled.
SC Copy.
CC Joe, we see that you're doing the loads
right now. I've got the codes out for that Z-axis recon-
figuration, after your drift loads, if you want it you can
holler.
SC Okay. Come with it, Crip.
CC Okay. That's 52015 with data word of
50034.
SC We're looking at it.
SC Okay. It's all in. We'll see how that
holds it.
CC Appreciate it. I knew we were going to
ring a few bells for you.
CC Skylab, Houston. We're one minute to
LOS and we'll see you again at 17:02 over Vanguard.
SC Okay.
CC And Skylab. We're looking at the data
now on that computer switchover and everything looks fairly
nominal now. Hope it remains that way until Vanguard.
SC It will.
PAO This is Skylab Control. That's it
through MILA. And we'll be reacquiring at the Vanguard
Tracking Station in about 9 minutes. We expect to get the
rest of the television of the lower body negative pressure
device on the next revolution. We have one more Goldstone
acquisition before we go off range as far as stateside stations
are concerned. And we hope to be able to get the rest of
the video tape recorder with that television dumped at the
next Goldstone acquisition. At 16 hours 54 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-769/1

Time: 12:01 CDY, 16:17:01 GMT
6/9/73

PAO This is Skylab Control, at 17 hours
2 minutes Greenwich mean time. Standing by now for acquisition
through the Tracking Ship Vanguard.

PAO Spacecraft currently on its 376th revolution.

PAO And we have about 9 minutes of acquisition
through this station, before losing contact. Following that,
the next acquisition will be at Goldstone and there will be a
dropout of about an hour before we regain communications after
the Vanguard pass.

CC Skylab, Houston. We're AOS over the
Vanguard for 9 minutes.

SC Roger.

CC And PJ, if you've got a minute, I'd like
to tell you about (static garble). Paul if you've got a
minute, I'd like to tell you about commanding we'd like to do
over the next Goldstone pass. Can you read me?

SC No. You dropped out shortly after you
said you wanted to talk for a minute.

CC Okay. Let's try it again. I'd like to
tell you about some commanding, we'd like to do over the
next Goldstone pass, which is going to be coming up oh, I guess,
in about 18:14.

SC Go ahead.

CC Okay. We want to do a little bit more
troubleshooting on the primary coolant loop. And what we
plan to do is turn two pumps, A and B, on in the primary
coolant loop to see if we can get more pressure on that
(garble) therm valve. And perhaps maybe that might fix the prob-
lem, or at least let us know a little bit more about it. If we
lose command capability anywhere in there, we will need you to
turn the pumps off. Also, we don't know whether you've still
got that (garble) cool flow, caution and warning enabled. If
you do, you will get a caution and warning when we turn the
thing on.

SC Yeah. We've got it enabled again, because
the parameter was off this morning. So we've got it enabled.

CC Okay. If you have no objections we will
be doing that commanding at about 18:15 and you will get a
caution and warning at that time.

CC Yeah. Understand. And I understand also,
that you want data powered down you'll be on voice cue from you,
right?

CC That's affirm.

SL-II MC-769/2

Time: 12:01 CDT, 16:17:01 GMT
6/9/73

SC
please, Bob?

CC
16:15.

SC
CC
SC

What's the next station and its AOS,
Goldstone is our next station. At about

Oh. Okay.
I'm sorry. 18:4 - - about 18:15, yes.
Okay.

END OF TAPE

SL-11 MC770/1

Time: 12:06 CDT, 16:17:06 GMT
6/9/73

CC Skylab, Houston. We're 1 minute until
LCS. See you again at Goldstone at 18:15, 1815.

SC (garble).

PAO This is Skylab Control. Our next station to acquire will be Goldstone, that in 1 hour 2 minutes. And as you heard during the conversation with the crew through Vanguard, during the Goldstone acquisition on this revolution, we plan to attempt a procedure to remedy the problem with the primary - the primary coolant loop. The procedure that was discussed with the crew was to command two pumps, A and B pumps, ON in the primary system. It's hoped that the higher than normal pressure in the system, caused by putting both of these pumps on line, will force the stuck TCV, or temperature control valve, into a position where it's flowing warmer and will bring that loop up to an operating - an acceptable operating temperature. The condition on the secondary loop remains unchanged. That loop is stable, continuing to control at about 40 to 42 degrees Fahrenheit, which is below the desired 47 degrees. But there's been no change in our status on that loop. At 17 hours 3 minutes Greenwich mean time, this - rather 17 hours 13 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC771/1

Time: 13:12 CDT, 16:18:12 GMT

6/9/73

PAO This is Skylab Control at 18 hours 13 minutes Greenwich mean time. We have 2 minutes until we acquire through Goldstone, California. And we expect to receive television during that pass at Goldstone and also a corner of Texas. Texas station coverage will be very low elevation and we suspect the television signal through Texas, if we have to take any of it that far along, may be rather marginal. Also on this pass we plan to initiate a procedure from the ground in an attempt to clear the problem with the primary coolant loop. The procedure that will be followed is to put two pumps - normally one would be used to flow the coolant through the system, put both A and B pumps on line in the hope that the increase in pressure on the - on one side of the temperature control valve will cause the valve to change its position and flow additional warm coolant into the loop, bring the temperature up to the desired operating level. This procedure, as mentioned, will be initiated by Ground Command. And the crew has been advised that if we lose contact before the ground has a chance to command the two pumps off the crew as a backup will switch those pumps off line after loss of signal. And we're about 5 seconds now from acquiring through Goldstone and we'll stand by for the remainder of that television of the lower body negative pressure through Goldstone.

CC Skylab, Houston. We're AOS through Goldstone for the next 11 minutes and we will be doing the commanding we referred to earlier on the primary coolant loop as well as some loading into the computer so we'll need you to stay off the DAS.

SC Okay.

CC Skylab, Houston. You calling?

CC Skylab, Houston. I hear you keen but all I'm getting is feedback.

SC Hallelujah. I finally found it. How about that.

CC Hey, that was the one.

SC Okay, I'm ready for this refrigeration pump switching, are you?

CC Okay. They're doing it now.

CC Oh, okay. I'm sorry. Yes, we're ready for that. And we are working on your primary coolant loop.

SC Yeah, okay. My refrigeration system - which pump you got on now?

SC Which one you want me to turn off, Crip?

CC Okay, we want you to put pump 1 to OFF and then pump for 5 seconds and then pump 1 back to AUTO.

SC Okay, primary 1, okay.

SL-II MC771/2

Time: 13:12 CDT, 16:18:12 GMT

6/9/73

CC And, Paul, while you're there I wanted to tell you - I can't remember whether I passed it up to you earlier - regarding your question on the 190A window vent plug - we do want to leave it in and we're considering doing the desiccants change out later one.

SC Yeah, we set those up already.

CC Okay, thank you.

SC Okay, is that it on that pump switching?

CC That's affirmative and we have pump 2 on now.

SC Okay. We been running on pump 1 to the whole time.

SC It's not a point. I just thought if anybody knew I was just curious.

CC That's affirmative. We had down pump 1 all this time.

CC EGIL reports that with both pumps on the primary loop the valve appears to be controlling as it should.

CC Skylab, Houston. For your information it looks like turning on both pumps on primary coolant loop might have worked. We drove that TCV to the hot position right now. We will be turning them both off again before we go over the hill and think about exactly what we want to do, though.

SC Okay, sounds good.

END OF TAPE

SL-II HC773/1

Time: 13:39 CDT, 16:18:39: GMT
6/9/73

PAO This is Skylab Control at 18 hours 40 minutes Greenwich mean time. Less than a minute away from reacquiring Skylab through the Vanguard tracking ship. The space vehicle now on its 377th revolution. And after Vanguard we have acquisition at Hawaii, the only other station that we're now getting coverage from as the ground track moves off net. In a couple of more revs we'll reach a point where we will go an entire rev, rev and a half to two revs, before we have acquisition.

CC Skylab, Houston. We're AOS over the Vanguard for the next 8 minutes. And also Skylab, we had so much success with that primary coolant loop a while ago, we want to try it this time with one pump. We're going to be doing that now. And if you do have your C&W for the (garble) flow ON, you will get a C&W from it.

SC Okay, we have something else for you to think over, about a process of testing the fire sensors. On 5 - panel 529, the number 2 sensor, 529-2, when you go to test, the little red light on the test panel lights, but it does not trigger a CAUTION and WARNING.

CC Okay, we copy. You get the test light, but you don't get the C&W.

SC That's right, and that's the one that was triggered during the EVA also. We got a question if you could zap them with too much sunlight or something like that?

CC Okay, we're looking at it for you, Paul.

SC I'm sorry. I said 529, Pete tells me. I meant 392, 392.

CC Okay, 392.

SC Yeah.

PAO We're looking at a flow of about 267 pounds per square inch, with the single pump on the primary coolant loop.

PAO And EGIL reports that it looks good with one pump. The valve appears to be controlling properly with a single pump on the primary coolant loop.

PAO We'll continue to look at this data through the Vanguard pass. Again, to repeat: with the single pump in the line, the temperature control valve appears to be functioning normally, diverting the proper amounts of cold and warm coolant into the loop to maintain the desired temperature.

PAO We're looking at a temperature - coolant temperature through the primary temperature control valve of 47.4. Cycling around 47 to 47.8 it looks like. The secondary loop still holding in there to around 40 degrees Fahrenheit.

SL-II MC773/2

Time: 13:30 CDT, 16:18:39 GMT

6/9/73

PAO This is Skylab Control. The primary coolant loop operating now with a single pump, and the temperature control valve is maintaining a flow with the temperature at 47.0 degrees, which is right on nominal. Also beginning to see a gradual increase in temperature - -

CC Before we go over the hill here at Vanguard I want to say once more I guess for the CDR; we are in solar inertial mode now. So when he goes to do his ATII pass he will want to select experiment pointing prior to sunrise to get everything to turn on like it's supposed to normally. And also we have turned the primary loop off again with that one pump, and it was looking good with the one pump.

CC Okay, Skylab. We're about 1 minute until 10S, and we'll see you again over Hawaii at 19:49. 19:49 - you got a nice long silence.

SC Yeah.

PAO This is Skylab Control. We've loss contact now through Vanguard, and we'll be reacquiring in about an hour through the tracking station at Hawaii. Again during that Vanguard pass, we completed - took another step in the test that was begun during the stateside pass earlier on this revolution or actually toward the end of the previous revolution. That sequence again over Goldstone - we sent a command to the space craft that commanded both pumps on the primary coolant loop ON. The hope was that with both pumps in a higher pressure, the temperature control valve, which was apparently stuck in the cold position, would free, would swing over and begin diverting warm water into the loop or warm coolant into the loop and bring the temperature up to the desired operating level. This primary loop, of course, had been shut down because of the malfunction and the fact that it was operating below desired limits. With the higher - higher pressure, and both pumps on line, EGIL, the environmental systems engineer, reported that the valve began functioning properly. And when the test was first begun with a single pump on line the valve was not controlling, but as soon as the second pump was brought on, it appeared to begin controlling normally and maintaining the flow in such a way that the temperature of the coolant in the loop was maintained at 47 degrees. At the next station, Vanguard, which we've just left, the test was repeated, this time using only a single pump, which is the normal configuration for the primary coolant loop. And with the single pump the valve was again controlling properly to all appearances from the data that we had during that pass. And at the end of the Vanguard pass, the primary system was again shut down. We're continuing to operate on the secondary loop. One point of interest also -

SL-11 MC773/3

Time: 13:39 CDT, 16:18:39 GMT
6/9/73

Flight Director Milt Windler asked EGIL if he was noticing any increase in temperature on the secondary loop as the primary loop began to control temperature properly, and in fact there was a small increase in temperature in the secondary loop, which has also been running below the desired temperature. The secondary loop had been running around 40 to 42 degrees. At the time the test was begun, it was around 40 degrees, and we saw the temperature come up to something in excess of 41. This, of course is within the range that we had been seeing but it did show an increase as the primary system began functioning as it should. And we suspect that it would be difficult at this point to draw any conclusions about the secondary loop as to whether or not continued operation of the primary loop at the proper temperature will in fact bring the secondary loop up. But that was certainly a preliminary indication. At 6 - or rather 18 hours 53 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC774/1

Time: 14:47 CDT, 16:19:47 GMT
6/9/73

PAO This is Skylab Control, Houston; 19 hours 47 minutes Greenwich mean time. Space station is about a minute and a half away from acquisition at the Hawaii tracking site, on this it's 377th revolution. We'll stand by for the radio communication between Skylab and the ground.

CC

Standing by for the next 7 minutes.

SC

Roger, Houston.

SC

Houston, CDR.

CC

Go ahead, CDR.

SC

Got a question this morning on the valve position in the command module on the suit loop and I verified that all those valves are positioned the way they were supposed to be and that's the answer to the question. They were all the way they were supposed to be and I couldn't find anything open so I don't know where they got their 2/10ths psi gain. You'll have to think about it.

CC

Okay, Pete. We copy.

CC

CDR, Houston. Do you have time to listen to a news note on a subflare?

SC

Yeah, go ahead.

CC

Right, inactive region, 31. We had a CT flare. It was subflare optically, began at 18:11 Zulu and ended at 18:30 Zulu. It was accompanied by a radial burst at 6 centimeters with 12 flux units. This is basic information. If we have another one like that or a little bit stronger it's just could trigger your flare alarm.

SC

Rog, Houston.

CC

Skylab, Houston. We have 20 seconds to LOS. We'll see you over Hawaii at 19:48. In the meantime we'd like to have TACS to inhibit, please.

SC

That's done.

CC

Roger.

PAO

Very little comm from the air on this pass over Hawaii. The commander was at the Apollo telescope mount station doing a little Sun watching and according to the flight plan the science pilot and the pilot were just about finishing up their meals and eat cycle which they had. At 19 hours 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-775/1

Time: 15:15 CDT, 16:20:15 GMT

6/8/73

PAO This is Skylab Control, Houston, at 20 hours 15 minutes Greenwich mean time. The space station is approaching the Vanguard Tracking Ship, nearing the end of the 377th revolution. We'll be in contact in about a minute for approximately 9-1/2 minutes of air-to-ground. Meanwhile on the ground, the flight controllers in final preparation for tomorrow's Flight Plan, making ready to ship it up to the crew this evening for another day of Skylabing. We'll stand by for air-to-ground.

CC Skylab, this is Houston standing by for 9 minutes over Vanguard.

CC Skylab, Houston is with you for 9 minutes over Vanguard.

SPT We're here, Houston.

CC Pete, this is Houston. We've got a comment on the update of the general message status, if you have a minute to listen.

SC (Garble).

CC Say again, Skylab.

CDR Say it, Houston.

CC Pete, we've been going through the general messages, seeing which are still valid down here and if it's okay with you, we'd like to send up a list of the valid ones. And let you tell us which ones you need a fresh copy of.

CDR I was afraid you were going to say that. Okay. Go ahead.

CC They'll be up very shortly, probably with the evening questions or a little bit before.

CDR Okay. We're going to have to work out for later flights, some better way of doing this, because the trouble is we spread the messages far into many categories. First for the individual guys and then for a certain piece of equipment and I'm not sure we've handled them quite right. And we'll talk about it up here in just a second, (garble) for the follow on. Go ahead and send your valid ones and we'll see what we can chase down.

CC Okay, Pete.

END OF TAPE

SL-II MC776/1

Time: 15:21 CDY, 16:20:21 GMT
6/9/73

CDR Hay, Houston, CDR.
CC Go ahead, CDR.
CDR Give us a reading on when we can tally
this LCG and LSU status and put them away.
CC Negative, Pete. We'll think about that
a little bit later.
SC I didn't say can we. I said would you give
us a time estimate as to when you think we're going to do it.
CC The answer we have is, in the next day
or two.
CDR You guys work slower than we did.
CC Pete, the message we get is we'd like to
get more confidence in the primary loop and then we'll start
working on the secondary loop.
CDR Okay.
CC Skylab, Houston. We have LOS in 1 minute.
We'll see you over Hawaii at 21:23. We will be dumping
recorders over Hawaii.
CDR Roger. Roger.
PAO The Skylab space station has moved beyond
range of the Vanguard tracking station tracking ship. We
would expect to receive data again over the Hawaii tracking
site in about 56 minutes, or at 21:23 Greenwich mean time.
At 20 hours 27 minutes GMT, this is Skylab Control.

END OF TAPE

SL II MC-777/1

Time: 16:21 CDT, 16:21:21 GMT

6/9/73

PAO This is Skylab Control at 21 hours 21 minutes Greenwich mean time. The warbler just announced the fact that we'll be in contact with the Skylab space station through the Hawaii tracking site in about a minute and a half. At that time we will have about 10 minutes of potential air-to-ground. At this time the Commander, according to the flight plan - the Commander is at the Apollo telescope mount station viewing the Sun, and the other two crewmen are undertaking the M131 human vestibular function experiment. We'll stand by for conversation from the spacecraft.

CC Skylab, this is Houston standing by for nine minutes over Hawaii. We will be dumping recorders.

CDR Roger, Houston.

MCC Hawaii contact Houston contact Neil 1 for voice check.

HAWAII This is Hawaii contact. Read you loud and clear.

MCC Same here.

CC Skylab, this is Houston. We have one minute to LOS. See you over Vanguard at 55.

CDR Roger, Houston.

PAO At 21 hours 34 minutes Greenwich mean time with the Skylab space station having moved beyond the Hawaiian tracking site, this is Skylab Control.

END OF TAPE

SL-II MC-778/1

Time: 16:53 CDT 16:21:53 GMT
6/9/73

PAO This is Skylab Control, Houston. At 21 hours 53 minutes Greenwich mean time, the space station is nearing the end of the 378th revolution around Earth approaching the tracking ship Vanguard for a pass across the southern tip of South America. We should be in acquisition through Vanguard in about a minute and 20 seconds. And the predicted time which we will have the signal through that tracking station is approximately 8 minutes. We'll stand by for any radio transmission that comes down from the spacecraft through the Vanguard.

CC Skylab, Houston. Standing by over Vanguard for the next 7 minutes.

CDR Roger, Houston.

CDR Hey, Houston, how about taking care of this BAT charge light again for us.

CC Roger, Pete, stand by.

CC Pete, this is Houston. So far as the CBRMs are concerned, we thought we had them fixed up this morning the way they should be, and you shouldn't be seeing any lights. If you see a light, could you please tell us specifically which one.

CDR The back BAT charge light.

CC Pete, this is Houston. We assume that that's the BAT charge light on CDRM 3 and if so we fixed it as well as we can at the moment.

CDR Okay.

CDR Just put it out.

CC Skylab, we have LOS in about 50 seconds. And we'll see you again over Vanguard at 23:33.

CDR 23:33.

PAO The Skylab space station has moved beyond the range of the Vanguard tracking ship, and will be out of communication with the ground now for 1 hour and a half. We'll be back in communication again on the next rev with the Vanguard tracking site. A couple of reminders. We are planning a change of shift briefing with Milton Windler, the off going Flight Director at 6:30 p.m. central daylight time in the News Center Briefing Room. We also have available to the press in the News Center an ATM status report, a summary some 4 pages in length of the ATM status through mission day 13. The summary reads in part as of the close of mission day 13, ATM had taken data off 33 full and 5 partial manned orbits, for a total of about 32 hours of solar viewing time. Very significant observations have been made, and a high degree of experiment performance assures great productivity from the ATM. There is further detailed information on the status of the individual ATM experiments

SL-II MC-778/2

Time: 16:53 CDT 16:21:53 GMT

6/9/73

And as I said, that detailed information is available to the news media who so desire a copy. At 22 hours 6 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-779/1

Time: 18:16 CDT 16:23:16 GMT

6/9/73

PAO This is Skylab Control at 23 hours
16 minutes Greenwich mean time, with a reminder that at
6:30 p. m. central daylight time, in the News Center brief-
ing room, we will have a change of shift briefing, with
Milton Windler, the off-going flight director. At 23 hours
16 minutes 35 seconds Greenwich mean time, this is Skylab
Control.

END OF TAPE

SL-II MC-700/1

Time: 18:31 CDT, 16:23:31 GMT
6/9/73

PAO This is Skylab Control, Houston 23 hours 31 minutes Greenwich mean time and we're about a minute away from acquisition of the Skylab space station by the Vanguard tracking site. We're been out of touch for about an hour and a half. During that time the crew did a few personal hygiene tasks and at this particular moment is, according to the flight plan, in their pre-sleep activities. We'll stand by for any radio communication we have with Skylab through Vanguard.

CC Skylab, Houston AOS 10 minutes.
PLT Hello, Houston. Where are we?
CC Oh, you're coming up on Vanguard.
PLT Ah ha.
CC And be advised we'll be dumping the tape recorder over Ascension. And I have a message - go Skylab?
PLT Go ahead.
CC I have a message here for all three crew members when they're available.
PLT Go ahead, Houston.
CC Congratulations to Conrad, Kerwin, and Weitz. There are no embassies in space, but you are our best ambassadors. Signed: Kenneth Rush, Acting Secretary of State.
CDR Thank you.
CDR You've got the night shift now, huh, Bill?
CC Yeah, we did a flip-flop here for awhile. We change off every now and then.
CC Hear you people did all kinds of good things.
SPT Yeah, we even recalibrated the SMMD today and Commander Weitz had the honor.
CC Very good.
SPT And nothing worked when somebody's riding the bicycle.
CC Hey, that was - I watched you on TV that was beautiful shots outside there.
SPT Of the EVA?
CC That's right. Couldn't stay away.
SPT Oh, I didn't know you got anything good from the TV. That's nice.
CC Yeah, there was some real beauties.
CC You were flailing your feet around a bit, Joe.
SPT That was my big problem.
SPT Weitz was afraid I'd destroy the MDA before we got the SAS up.
CC (Laughter)
CC Now that we've passed on all the good words from Washington - a couple of words from Houston. How would you feel about changing out the dessicants on the S190 package

SL-II MC-780/2
Time: 18:31 CDT, 16:23:31 GMT
6/9/73

tonight?

CC
CDR
CC
CDR

That's just to please - -
Yeah, we can do that.
Okay, thank you much.
Say, Bill - -

END OF TAPE

SL-II MC-781/1

Time: 18:37 CDT 16:23:37 GMT

6/9/73

CDR Say Bill, I asked them a little while ago if we passed through zero beta angle what was going to happen as it started going up. And they said well, the vehicle is going to start getting colder. Well, the vehicle is starting to get hotter. The workshop is back up to about 75, and I wondered if they had any words of explanation. Is it our additional power output heating the vehicle?

CC Pete, I'll pass that on, and if nothing else it will be a good data point.

CDR Okay.

CDR I'll do it.

CC Skylab Houston, LOS in 1 minute. And the ground feels that changing out this (garble) in the S190 will clear up all the moisture by morning without any other action being required.

SPT Roger.

CC We'll see you at Ascension at 23:46.

SPT Roger.

PAC We have had loss of signal with the Vanguard tracking ship. We'll take the line down now for the expected change of shift briefing. We will acquire in a couple of minutes at Ascension, but we will record that and play that - play back that information to you later. At 23 hours 44 minutes GMT, this is Skylab Control.

END OF TAPE

SL-II MC-782/1

Time: 18:57 CDT, 16:23:57 GMT
6/9/73

PAO This is Skylab Control 23 hours 58 minutes
Greenwich mean time. During the Change-of-shift briefing we
had a pass over the Ascension Island tracking station. There
was about a half a minute of com with the crew. We'll bring
that up for the edification of those press.

SPT Hello, Houston. We're eating dinner.

CC We copy.

SPT What's the news for the evening?

CC Yeah, we're supposed to get the latest
in by about eight o'clock this evening. We'll get it on up
to you.

SPT Super.

CC Skylab, we're going LOS in one minute.

Guan AOS at 00:30.

PLT Roger, Bill.

PAO At 23 hours 55 minutes 50 seconds Greenwich
mean time this is Skylab Control.

END OF TAPE

SL-II MC-783/1

Time: 19:29 CDT, 17:00:29 GMT
6/9/73

PAO This is Skylab Control, Houston at 29 minutes Greenwich mean time in the 161st day of the year. We're roughly a minute and a half away from acquisition at the Guam tracking site on this the 380th revolution of the Skylab space station. When we acquire at the Guam tracking site we expect to have about 9-1/2 minutes of time where we will be in communication with the crew. We'll stand by for radio communication with the Skylab crew.

CC Skylab, Houston, AOS 10 minutes Guam.

CDR Howdy, Houston.

CC Skylab, we're going to sleep configuration on the Y-gyros, Y-1,2 active with Y-3 as backup.

PLT Roger.

CDR Okay.

CC CDR, Houston.

CDR Go ahead.

CC Answer to your questions about the tempera-

ture decrease. The concensus here is that this increase is coming from the power up of the equipment which they estimate will amount to about 4 degrees. Since you started off at 75 you should end up at 79, possibly 80 degrees, and there may be a little effects from Earth albedo, but that's still being kicked around.

CDR Okay, can I give you the evening status reports?

CC Yeah go ahead. We're standing by.

CDR Okay, the CDR ate everything plus two butter cookies.

END OF TAPE

SL-II MC-734/1

Time: 19:36 CDT 17:00:36 GMT

6/9/73

CDR And the CDR ate everything plus 2 butter
cookie - 2 cans of butter cookies..

CC That's 2 cans, Pete, or 2 cookies?

CDR Two cans.

CC You getting hungry?

CDR Plus the CDR had 10 optional salt.

CC Copy.

CDR And the SPT ate everything with no salt.

The PLT ate everything except item 65 corn, item 75 bread,
and item 62 coffee with sugar, out of the meal, dinner meal
and snack. He had a DELTA H2O of plus 1 and 2 optional salt.

CC Copy.

CDR Okay, the film status day 166, 16 millimeter,
it's a long one. M151/S190B preps C Charlie India 06, 65,
Charlie India 03; EREP was PH 02 85; M092/M171 M151 C107,
35, C104. Delay that last one, that was yesterday's.

CC Copy.

CDR Okay M487-4Easy CI Charlie India 05,
52, Charlie India 01; M516 housekeeping 60 Echo, Charlie
India 05, 55, Charlie India 01; M516 housekeeping 60 Echo,
Charlie India 06, 62, Charlie India 03; M131 Charlie India 07,
the roll was empty, Charlie India 04; 35 millimeter Charlie
India 34, 60. We changed that out. Charlie India 35, 50;
Charlie India 26, 42; 70 millimeter CX06 87, the ETC was
265, the EREP S190 set Oboe 1 was 6817, 2 was 6153, 3 was
7028, 4 was 7024, 5 was 0565, 6 was 7884. The drawer con-
figuration is A1 X-PORTER 02, Charlie India 05, 62, Charlie
India 01; A2 is X-PORTER 03, Charlie India 06, 62, Charlie
India 03; A3 is 06, Charlie India 07, 0 percent, Charlie
India 04; A4 is 05, Charlie India 25, 100 percent, M11.
Over.

CC We copy Pete. We'll be LOS in 40 seconds.
We'll have you at Vanguard at 01:10.

CDR Okay, there were no changes in the flight
plan. The flight plan was executed as written.

CC We copy.

PAO Skylab has moved out of range of the
Guam tracking station. We'll have acquisition again in
about 30 minutes at Vanguard. Tomorrow June 10th, mission
day 17, key activities will be - will include Earth resources
pass identified as pass number 7. Like today's pass, it will
start over the Pacific northwest continue over the Rockies,
Minnesota, Kentucky, Georgia, out over the Atlantic and
cross Brazil - a long pass approximately 6000 plus nautical
miles. As the spacecraft moves over the US there are a total of
36 sites which will be active on this pass tomorrow. And
the basic information which will be sought out of the pass,

SL-11 MC-784/2

Time: 19:36 CDT 17:00:36 CMT

6/9/73

experimental information, will be agriculture and range land experiments. In addition we will run a series of medical experiments including the familiar M092, lower body negative pressure, and the M171 metabolic activity. In the case of the M171, M092, Science Pilot Dr Joseph Kerwin is the subject and the observer will be the Pilot Paul Weitz. Metabolic activity experiment provides us an evaluation of man's metabolic effectiveness as he works in the space environment. This of course is the familiar experiment using the ergometer or the stationary bicycle. Tomorrow will also be devoted to additional Apollo Telescope Mount experiments. Passes over the Earth with the astronauts viewing the Sun. At 43 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-785/1

Time: 20:08 CDT, 17:01:08 GMT

6/9/73

PAO This is Skylab Control, Houston, at one hour eight minutes Greenwich mean time. The space station is approaching the Vanguard tracking site again near the end of the 380th revolution. On this pass coming up we'll cross Vanguard and be in comm for about 11 minutes. Have a short period of lack of communication, be back in control - or back in comm at Ascension, the Canaries, and Madrid. We'll stand by for what we hope will be some air-to-ground.

CC Skylab, Houston, AOS 10 minutes at Vanguard.
PLT Roger, Houston. We're busy here at our experimental space laboratory. The darts didn't work worth a darn but the paper airplanes are rather promising.

CC Hey, how's the slinky?
CC And if it won't interfere with your dart game, I'll give you some of the hottest news items today.

PLT Stand by 1, Bill.

CC Okay.

PLT Okay, go ahead.

CC Okay, on the diplomatic front, Nixon and Breznev are going to have a Summit meeting, June 18th to June 26th, at Camp David and San Clementi. Henry Kissinger's on his way back to Washington without concluding an agreement to stop violation on the Viet Nam cease-fire. And West Germany's Willie Brandt went fishing on the Sea of Galilee today during his visit to Israel. Brandt caught one 7-inch carp. On the sports front, Secretariat literally ran off with the race today. He was the first horse in 25 years to win all three. He was 31 lengths ahead of four other horses, also set a new record for time. Did the mile and a half in two minutes and 24 seconds.

SPT Fantastic.

CC And there's some trades in the pro-football quarter-back ranks. Johnny Unitas has gone with San Diego Chargers, Roman Gabriel has gone to the Philadelphia Eagles, and near home, Buddy Baker won the pole position at Brian Speedway, qualifying speed was 169-1/4 miles an hour. Here's one that should set a goal for you astronomers there. A graduate student at the California Institute of Technology sighted a previously unknown comet. His name was John Hookra, and it's been named for him. There's one for you to shoot for.

SPT Well, we haven't discovered any comets, but, we have made the observation that the Sun is indeed the color of dirty beach sand.

CC All right, we will obviously call that the Kerwin effect.

CC And, Houston, it looks like is running about number four now, they did win on Friday for Pittsburg three,

SL-II MC-785/2

Time: 20:08 CDT, 17:01:08 GMT
6/9/73

Chicago Cubs won five over Cleveland two and Joe might be interested in that the Cubs are looking up quite a bit the last day or two.

SPT

It's going to be Rigly Fields - -

END OF TAPE

SL-II MC-786/1

Time: 20:14 CDT 7:01:14 GMT

6/9/73

CC - - 5 over Cleveland 2. And Joe might be interested in that the Cubs are looking up quite a bit the last day or 2.

SPT It's going to be Rigley Field and Cominsky Park this year.

CC Copy. And it was a pretty nice summer day in Houston today. Some lines of small thunder bumpers cleaned things out and it's warming up.

SPT Glad to hear it, thanks a lot.

CC Is PJ any better on that dart board at zero g than he is at one g?

PLI No, the problems with the darts at zero g, the air pressure is so low here that they're unstable.

CC I forget what his excuse was under one g.

CC Pete, you may have started a new mode of contemplation here once they see that TV shot of you in the lower body negative pressure with that folding of the arms you do there.

SPT Wait until they see the picture of me I had taken for Rusty with my head in my water dish contemplating.

SPT Hey, during the flare alarm go off a minute ago on the dark side, reminded me to ask you guys a question about leaving that flare alarm enabled when we're not at the console. Now that we have some active regions on the disc we'd like very much to leave it enabled. The problem is that we go through the either the south Atlantic anomaly or one of the Horns almost every pass. And right now we don't know what those times are unless they occur when someone is at the console and we have a pad for it. I wonder if it might be advisable to have you send us up every day a pad containing the south Atlantic anomaly times in GMT so that we can then leave (garble) enabled then if it went off we could immediately check the pad and know whether to respond or not.

CC We copy that Joe. We'll do that as a matter of fact, Joe.

SPT Okay, thank you.

CC Bruce McCandless was wondering how the flash was working (garble).

CDR What did you say Bill? We were yaking at each other on the intercom.

CC Yeah, you've reported taking a number of pictures inside and Bruce was curious as to how the flash was working.

CDR Very well indeed Bruce. No problems at all with it.

CC Skylab, we're going LOS in 1 minute.

SL-II MC-786/2
Time: 20:14 CDT 7:01:14 GMT
6/9/73

Ascension at 127 and at Canary we'll have the usual conference at 131.

CDK Roger Houston, and thank you for the news. Also tell Bruce he did a good job that all that (garble) stuff is working real well.

CC Copy.

END OF TAPE

SL-II MC-787/1

Time: 20:22 CDT, 17:01:22 GMT
6/9/73

CC
17 minutes.

Skylab, Houston, AOS for approximately

CDR

Roger, Houston.

CC

And we're loading the Y-3 scale factor into
the computer now. We're also going to do a small memory dump.

CDR

Okay, Houston, CDR. Be advised I'm in the
process of changing out the (garble) right now and it'll be done
in about 10 minutes.

CC

We copy.

CDR

And also command module systems housekeeping
(garble) been completed.

CC

We copy also, Pete.

END OF TAPE

SL-11 MC-788/1
Time: 20:30 CDT, 17:01:30 GMT
6/9/73

CC PLT, Houston.
PLT Go ahead.
CC ATM has just seen a massive surge at coordinates 290/1.0. It's designated at T-79. They want you to finish your synoptic observation as scheduled. However, after you have completed the synoptics they want you to look at this area in the white-light coronagraph and if in your judgement it warrants it, they would like for you to do building block 16. This is in JOP 8.
PLT Okay, we're familiar with 16 and we'll do that. Thank you.
CC Okay, that's section three.
PLT Roger.
CC Step three, that is.
CDR Houston, CDR.
CC Go CDR.
CDR I've been changing these dessicants and I'll tell you - it might be my eyes or the flashlight but I'm high strapped to see much difference between what I'm putting in except for one and I have one that's really super-blue, but the other five that I've taken out of the case and opened up fresh are not too blue. Now, I've changed them out and I really wasn't aware of that so I got to the super-duper blue one which happened to be (garble) usually is one. So I think what I really ought to do is go ahead with this the way it is, but I'll take six of these old ones down and stick them in one of the ovens along with the suit desicants that were dry and see if I can't cook me up six really good dry ones.
CC Okay, we copy that, Pete.
CC And everybody concurs with that Pete. Trying the dry ones.
CC We're due in LOS, we'll see you again at Guam at 02:08 and they'll be dumping the tape recorder then.
PAO We've had loss of signal through the Madrid station. At one hour 43 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-789/1

Time: 21:07 CDT 17:02:07 GMT

6/9/73

PAO This is Skylab Control, Houston. At 2 hours 7 minutes Greenwich mean time, the space station is about a minute away from acquisition at the Guam tracking site, on revolution 381. We'll have some information to pass up to the crew, so we'll stand by for the air to ground.

CC Skylab, Houston. AOS, Guam for 7 minutes.

PLT Roger, Houston.

CC PLT, Houston.

PLT Yeah.

CC We've got the Packs loaded checked and I ran into - loaded it into the computer if your not on the DAS, for about a minute.

PLT Okay, go ahead.

CC Wilco. Also on, if you should go to Building Block 16 the coronal transient guidelines that were uplinked today are appropriate.

PLT Okay, understand. I intend to run Building Block 16 when I get in before sunset.

PLT It's a very narrow well defined streamer that extends off the unarmred fieldof view on the coronagraph.

CC Copy.

CDR Say, Bill, are you still there?

CC Still here, Pete, go ahead.

CDR I've gone through the whole pile of dessicants, there is only 2 good ones. I put them in the camera. And I bet I got some dessicants for the suit, the last suit is drying in the oven right now and as soon as that's frre tomorrow, I'll cook some (garble) and put them in.

CC We copy an. thank you, Pete.

CDR How about giving us a - you guys got any ideas about how long they need to be cooked?

CC I'll check it.

CDR Thank you.

CC It's going to take a minute to get an answer on that one, Pete.

CDR All right.

END OF TAPE

SL-11 MC-790/1

Time: 21:11 CDT, 17:02:11 GMT

6/9/73

CC It's going to take a minute to get an (garble)
on that one Pete.

CDR All right.

CC Skylab, Houston, AOS for three minutes.

CC CDR, Houston.

CDR Yes, go ahead, Bill.

CC On the desiccants. They can be left in for
24 to 72 hours and we'll send you up a note on a pad to tell
you when to take them out. We understand that you've already
placed them in the oven now.

CDR No, that's not correct. I have two desiccants
in that oven - in the two ovens right now. We have one suit
drying still and they'll be out tomorrow.

CC We copy that and in that case the - you can
stow the desiccants in the 190-A stowage it's felt to be the
best spot.

CDR Yeah I got your easy questions here and
we'll put them on B channel.

CC Thank you.

CDR Okay.

CC And Skylab we're going LOS here and we'll
see you tomorrow morning I guess.

CDR Okay, night night.

PLT Good night.

CC What's this about PJ sleeping in a separate
spot?

CDR Every night at 03:00 he disappears through
the hatch and we don't see him again until 11:00 the next
morning.

CC The spooks may say something very bad or
very good about that.

CDR That's up to the spooks not us.

CC (Laughter)

PLT He goes to an empty house in Arcom,

Massachusetts.

PAO On that note of levity the Skylab crew got
a good night ending their 16th mission day on this flight.
Earlier this evening Dr. Charles Ross had a medical conversa-
tion with the crew and he reported the following information:
"The Skylab crew remains in good condition and have no com-
plaints. The Commander reported no subjective problems during
the lower body negative pressure experiment. He had no dif-
ficulty performing the high workload of the bicycle ergometer
experiment. To date, no problem with motion sickness has
been reported during the human vestibular function experiment."
That's the end of Dr. Charles E. Ross's daily medical bulletin.
In essence, the crew appears to be well. They've had a busy
day today. They will rise tomorrow on mission day 17 facing

SL-II MC-790/2

Time: 21:11 CDT, 17:02:11 GMT

6/9/73

another busy day, including an Earth Resources pass and the usual medical exam - experiments, together with some Apollo telescope mount experiments. At two hours 28 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-791/1

Time: 22:19 CDT 17:03:19 GMT
6/9/73

PAO Skylab Control at 3 hours 19 minutes Greenwich mean time. At this time, we'd like to play back some unexpected commentary from the Skylab astronauts at their last pass at Canary Island station. And this has been recorded for you and it will be played back now. This was an unexpected pass after the normal go to bed time. Here is the air to ground.

CDR Hello, Houston, are you there?

CC Go ahead, Pete.

CC Go ahead, Pete. We're standing by.

CDR I was just giving a tremendous dissertation about an engineering change on B channel when you came along and dumped the tape recorder on me and busted my continuity. Shame on you.

CC We're sorry, Pete.

CDR It's okay.

CC We thought you were in bed.

CDR Well, we were just putting in that lovely list of changes that you sent to us, and answering that lovely list of questions that you sent to us, and we were just finishing up putting it on B channel.

CC I sympathize with you. I'm having trouble enough just writing changes in checklist down here.

CDR Yeah, but there is 5 or 600 of you guys versus 3 of us and you win every time.

CDR That was what I was sympathizing with you about Pete.

CC Pete, we're waiting til about 3:00 in the morning in the future to dump it and some other such thing.

CDR No, that's okay. I happened to be giving a particular good one on an engineering change we just made up here on the spacecraft. And I was doing it in a rather impatient manner when the tape recorder was abruptly taken away from me.

CC Pete, I'm sure you'll have time to polish it up in the even finer form before you get a chance to go at it again.

CDR Okay.

CC Pete, you're going to get the recorder back in about 3 minutes. Seriously, as a matter of fact (garble) should we stay off the tape recorder for a while after we normally go LOS here at night?

CDR No. I tell you what though, why don't you when you give us our last call of the evening, tell us the next station because we probably won't be up more than one station, you know, and we'll know you're going to dump and we won't be using it at that time if we're just polishing

SL-11 MC-791/2

Time: 22:19 CDT 17:03:19 GMT
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off the evening.

CC

Wilco.

CDR

Thank you, sir.

CC

Thank you, sir.

PAO

That's the conclusion of the air to

ground. This is Skylab Control at 22 minutes after the hour.

END OF TAPE

SL-11 MC-792/1

Time: 05:30 CDT, 17:10:30 GMT
6/10/73

PAO This is Skylab Control at 10 hours 31 minutes. We've just had a call through to the crew over the Honeysuckle Creek, Australia, tracking station, by CAP COM Dick Truly. Joe Kerwin answered the call, said he was up and about and would be getting the other two crewmen up shortly. We'll play back that bit of conversation for you and then stand by for anything further that develops over Honeysuckle Creek.

CC Skylab, Houston. An early good morning to you, and we're standing by at Honeysuckle for the next 9 minutes.

SC Roger, Houston. The SPT is up but I'm going to get the other two up when I'm ready.

CC Okay, no problem.

END OF TAPE

SL-II MC793/1

Time: 05:40 CDT, 17:10:40 GMT

6/10/73

PAO ...suckle Creek and will be reacquiring in about 7-1/2 minutes over Hawaii. The crew getting a bright and early start this morning; 30 minutes earlier than normal. This was a planned early wakeup, with a fairly active day and an early EREP pass. Also, this is the morning that Joe Kerwin takes skin samples, body samples from the skin using swabs for cultures. Part of the routine inflight medical activities. Also today the crew will be operating the Apollo telescope mount in addition to the EREP pass, EREP 7. There'll be an active day of medical experiments; MO92, the lower body negative pressure in conjunction with M17i metabolic activity. And we're scheduled to have television coverage of the metabolic activity experiment which includes the bicycle ergometer. For the night, all systems on the vehicle remained stable, and no - no problems. At 10 hours 42 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC794/1

Time: 05:46 CDT, 17:10:46 GMT
6/10/73

PAO Skylab Control. We're now about 15 seconds away from reacquiring at Hawaii. After having awakened the crew, Joe Kerwin, who had the watch over Honeysuckle Creek, Australia. We'll stand by to hear from the crew over Hawaii.

END OF TAPE

SL-II MC-795/1

Time: 05:58 CDT, 17:10:58 GMT

6/10/73

PAO This is Skylab Control. We're out of range of Hawaii, with no conversation with the crew over that station. We'll be acquiring at Goldstone in about a minute and a half. We'll leave the lines up for that stateside pass. And we'll have an EREP, Earth Resources Experiment Package, pass today. That will be coming up on - beginning on rev 388, carrying into revolution 389. The EREP sensors will be turned on over Vancouver, British Columbia, and for the next 27 minutes they'll obtain data over the United States, the Virgin Islands, and northeastern Brazil. Information from this data collection will be used in an analysis of the geologic and hydrologic regime of the Great Plains. Also, it will go into a compilation urban growth patters of Peoria, Cedar Rapids, Davenport, and Ashville, North Carolina. Also it will be used in studies of the Sangamon Valley, Illinois, and the Puerto Rican seafloor trench; and also and evaluation of the Amazon River basin resources in Brazil. We now have acquisition of signal through Goldstone, California. We'll stand by for that stateside pass.

CC Skylab, Houston. We're AOS at Goldstone for the next 7 minutes.

SC You there, Houston?

CC Yes, sir. Standing by.

CC Skylab, Houston. We're AOS at Goldstone for 6 minutes.

CC Skylab, Houston. AOS at Goldstone for 5 minutes.

END OF TAPE

SL-II MC-796/1

Time: 06:03 CDT, 17:11:03 GMT

6/10/73

CC Skylab, Houston; Goldstone for 4 minutes.
SC Roger.
CC Skylab, Houston. Goldstone for 2 minutes.
SC Hello, Houston. Everybody's up and the

sampling is complete.

CC Okay, Joe. We've been trying to get configured here for a couple minutes here at Goldstone. And the only immediate note that I have for you this morning if you've - when you get to going through your pads, you'll notice, Joe, for you there's two ETC pads onboard. The correct one is number 1729, which is the shorter of the two. And sometime this morning, prior to EREP, I've got some deletions to the, to Pete's EREP operate pad that also have to do with that ETC pad we sent up.

SC Okay, he'll catch them when he can.

CC Okay, there's no hurry at all. And be advised that we're about 1 minute from LOS. We're going to see you at Canary at 11:20 - Stand by 1.

CC Skylab, Houston. We're going to see you at Ascension at 11:29. Be advised this morning to the next three revs are so, we're going to lose some station passes that we normally would have in order to support a scientific, unmanned scientific payload, that we're launching from the Cape this morning, that's going to - into lunar orbit and it's a radio, astronomy payload.

SC Okay, very good.

CC Roger.

END OF TAPE

SL-II MC797/1

Time: 06:10 CDT 17:11:10 GMT

6/10/73

PAO This is Skylab Control. Our next station to acquire as the crew was advised, will be Ascension, the tracking station at Ascension Island. In order to support the radio astronomy Explorer B unmanned satellite launch from Cape Kennedy today, the tracking stations at Bermuda, Canary Island, and at Carnarvon, Australia, will be committed to the unmanned mission for varying periods. The Bermuda station will be committed to the unmanned satellite launch from revs 385 through revs 389. The tracking station at Canary Island will not be available to us for revs 386 and 387. And the Carnarvon, Australian, tracking station will not be available for revolutions 387, 388 and 389. At 11 hours 12 minutes, this is Skylab Control, Houston.

END OF TAPE

SL-II HC-798/1
Time: 6:29 CDT, 17:11:29 GMT
6/10/73

PAO This is Skylab Control at 11 hours 29 minutes. And we're about to reestablish radio contact with Skylab now on the 387th revolution. We'll be talking to the crew through the Ascension Island tracking station. That will be a relatively short pass, something on the order of about a minute and a half, or correction, about 7 minutes on Ascension. And our next station after Ascension will be the Honeysuckle Creek, Australia tracking station.

CC Skylab, Houston. We're AOS at Ascension for 7 minutes.

SC Hi there, Dicky.

CC Hi there.

SC Say, Dick. On your odds and ends message this morning, 19; 17:19 (garble).

CC Roger.

SC Okay. On question number 4, statement number 4, request verification that panel 207 AM aft firewall 2 sensors are not inhibited.

CC That's correct. They're not inhibited, but sensor number 2 is the one that - that is exposed in the aft heat exchanger compartment, and that's the one that went off when we went EVA, and it's now burned out. If we sent you a query and said, "do you want us to change it out?" If we haven't gotten a reply to that. It's busted, but it's not inhibited.

CC Roger, Pete. And those two - that question was related to that one. The understanding, just so we have it straight - The understanding we had was that when you tested you got a red light on the sensor, but you did not get a caution and warning trip, and - and we just wanted to make sure before we started further troubleshooting that - you know - we had verified all the circuitry and so forth.

SC We'll double check it again, but of course we picked it up during the fire sensor checkout, and we'll check the inhibit switches, but I believe that they're both on. I know what you're talking about.

CC Okay.

SC Okay. Now on number 7. (Garble) It says, rephrasing now, "we've observed three premature cutoffs in S056 active 1 mode. Have you observed any S056 anomaly in the active mode." The answer to that is yes. Active 1 long is stopped in filter position 3, and that again was put on B channel throughout yesterday. At least I put it on a couple times, I think. We have noted active 1 long; it hangs up in filter 3 position and stops making pictures.

CC Okay. We - the (garble) our copies, and I guess we're just a little bit behind in getting to channel B.

SC Okay. One other thing, Dick. I was right on that JOP - on that corono JOP last night. It did the

SL-11 MC-758/2

Time: 06:29 CDT, 17:11:29 GMT

1/10/73

same thing. It hung up in active 1 long. I terminated and went on to - I think the next sequence in building block 16 is an active 1 normal. And I watched it do about four cycles, all of which are okay. And I was (garble) and then I looked back at it, and it apparently hung up on filter 1 in active 1 normal. So I don't know what it's doing. It looks like it's starting to do funny things, all of which so far have really been in active.

CC Okay. Copy.

SC Okay, Dick. I just verified 207 and the inhibit switches are active, so the problem, I do believe, is back in the sensor. In fact, maybe what we ought to do is just put another sensor in and see if it tests or not.

CC Okay, Pete. We'll be getting back to you

on that one.

SC (garb'e)

END OF TAPE

SL-II MC799/1

Time: 06:35 CDT, 17:11:35 GMT
6/10/73

CC Skylab, Houston. We're about 1 minute from LOS. We're going to see you at Honeysuckle at 12:06. And CDR the - we'd recommend the caution and warning system half number 4 which will probably lead you quickly to a sensor changeout and we were going to schedule that on the Flight Plan for tomorrow but if you have time today to get it accomplished just let us know that you did and we'll see the results.

SC Okay, Dick, very good.

CC Roger.

SC Are you still there, Dick?

CC Affirmative.

SC Also, pass to the EREP people will you, please, I tested DAC magazine B in Bravo Hotel 01 and it's working okay.

CC Okay, got that.

PAO This is Skylab Control. We'll be re-gaining contact with Skylab in about 26-1/2 minutes through the Honeysuckle Creek, Australia, tracking station. During the pass through Ascension Island one of the things discussed was the fire sensor in the heat exchanger. The previous day the crew had reported that when checking the sensor the light came on but the caution and warning did not sound. And the decision has been made to changeout that sensor and replace it with a spare. Details of that changeout as to how to be worked into the Flight Plan and when it will occur are being determined. Also during today there's a good possibility that we'll do some additional troubleshooting with the coolant loops. The plan at this point is to bring up the primary coolant loop which we did some troubleshooting on yesterday and which appeared to be functioning properly after turning on two pumps on the line to increase the pressure and in effect jog the temperature control valve into the desired position. The line - the loop was again tested with just a single pump in operation which is the normal configuration and it was also controlling the temperature properly in that configuration. The loop will be brought up today and operated for some time to gain confidence that it is, in fact, working properly. And then there is a good chance that a similar procedure will be tried on the secondary loop which is also controlling lowering temperature. The secondary loop temperature is around 40 to 42 degrees which is somewhat below the desired 47 degrees. And it's felt that by increasing the pressure on this loop and by turning on both pumps at the same time instead of operating with a single pump, that we might obtain the same effect that we did with the primary loop and jog that temperature control valve a little bit more toward the warm side and get the secondary loop to controlling at the desired 47-degree temperature. At 11 hours 42 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC800/1

Time: 07:05 CDT, 17:12:05 GMT
1/10/73

PAO This is Skylab Control at 12 hours 6 minutes. We're standing by for acquisition through the Honeysuckle Creek, Australia tracking station. The crew should be completing postsleep activities and preparing for EREP7. EREP pass to be conducted on the 388th and 389th revolutions. The spacecraft currently in it's 387th revolution of the Earth.

CC Skylab, Houston. We're AOS Honeysuckle for 7 minutes.

SC Roger. Hi, Houston. Do you have any photo people listening down there?

CC Yes, sir. We're listening. Go ahead.

SC Okay. For shoot - 35 millimeter, as you're aware. We're out of exterior film. Out of the window we've been shooting the interior film. I want to verify that the proper thing to do is shoot that interior film on the Nikon in an ASA setting for a light meter of 160.

CC Okay, Paul. We'll get you an answer.

SC That's not right. We want the right setting.

CC Roger, Understand.

CC Skylab, Houston. For your information, this pass we're selecting gyros Yankee 1 and 3 for control again this morning since they have better scale factors. And for proper talkback indication, you need to make sure the Y RATE GYRO MONITOR switch is set to 3/1.

SC Now we're in for it again, huh?

CC Affirm.

SC What would you guys have to do down there if you didn't have those rate gyros to play with all night?

CC Flight says we have plenty of things to do, but I'm not sure I agree.

CC CDR, Houston. Flight says that we have plenty of things to do on this shift correcting teleprinter pads. And along that line, sometime before EREP I need to make sure you're EREP operate pad is right. I've got a couple of deletions for you.

SC Okay, Dick. Just a second. Let me get it out of my book.

CC No hurry.

SC Go ahead, Houston.

CC Okay. At a time of 31:30 - This is going to be some deletions on ETC - 31:30, delete that line for ETC to AUTO. At, I think, it's 35 minutes - My copy is kind of bad - the next ETC line item is to delete that going to STANDBY. Then down there at 38 minutes, delete ETC to AUTO. And, finally, at - under 39 about three lines below the 39:00 entry, delete

SL-II MC800/2

Time: 07:05 CDT, 17:12:05 GMT
6/10/73

ETC to STANDBY. That takes care of ETCs, and it makes your pad agree with Joe's pad - his correct ETC pad, which I told y'all while ago is number 1729. The other one you have on board for this morning should be thrown away. I have one more deletion on your EREP operate pad, and that's at a time of 35 plus 31. S192 mode to stand - excuse me, mode to READY. I want to delete that line. And reason for that deletion is is that it permits unnecessary usage of the EREP tape. Incidentally, the reason for the change in the ETC pad this morning was is after a little bit of second thought on the film that's in that camera, we need to save the remain - a good bit of that film for the calibration run we're going to do on the Moon later. And it was just a mistake on our part.

SC Okay. I've got a question for you. Would you pass on or have Flight pass on - give us a - just - couple of set - summary of what kind of operations you have planned for us after the fuel cells give out.

CC Okay. I'll make sure they get their heads together and let you know, Pete.

SC Just a general idea of what we're going to operate and so forth.

CC Understand. Incidentally, while I've got you on the phone, in thinking back over some of the comments y'all made on EVA, we remember one of you guys saying that the command module spotlight was on. And I'm assuming that that was the docking spotlight, and we're assuming now that it's been turned off. Is that correct?

SC Okay. Let me tell you. That was me. And there are two gold (garble) that I had never seen before on the command module. I suspect they must be some experiment radiation sensors or something or others - I'll have to figure out what they were when I get back. But they're two hemispheres, but the sun was shining. It looked exactly like a light bulb inside a glass housing - it was on, and it was not. It was these two gold hemispheres, whatever they are. They're located near the command module RCS roll thrusters, as I remember it; and so maybe somebody can identify what they were from here. I had never seen them before on the command module. That doesn't mean they hadn't been there forever. I had never noticed them before.

CC Okay, thank you. That clears that up. We're just about to go LOS and I'm going to see you in Hawaii at 12:26.

SC Okay.

END OF TAPE

SI-11 MC-801/1

Time: 07:14 CDT, 17:12:14 GMT
6/10/73

PAO This is Skylab Control. That's all through Honeysuckle Creek and we'll acquire next at Hawaii. During that pass couple things of note, discussed by the crew and with the crew. Paul Weitz noted that he was out of film, out of the exterior film, to be used on the 35-millimeter Nikon camera, and reported that he was using the interior film for out-the-window photographs, requested confirmation of the exposures settings that he was using. And also Pete Conrad requested a rundown of the procedure to be followed after the ASM fuel cells shutdown; how the electrical power systems will be managed to continue experiment operations. We continue to be in good shape as far as electrical power, with the ATM solar panels and the single solar panel on the workshop performing nominally and putting out full expected electrical energy. We'll be reacquiring at Hawaii in about 10 minutes 40 seconds. This is Skylab Control, Houston; at 12 hours 16 minutes Greenwich mean time.

END OF TAPE

SL-II MC802/1

Time: 07:25 CDT, 17:12:25 GMT

6/10/73

PAO This is Skylab Control. Now we're about to acquire through the Hawaiian tracking station, now on the 387th revolution. We'll stand by for that communication with the crew over Hawaii.

CC Skylab, Houston. We're AOS, Hawaii, for the next 8 minutes.

SC Roger, Dick.

CC Roger.

SC Hey, you might pass to the EREP people that - Pete tried to get you last time, but we were already LOS. On that EREP pass yesterday, we got a end of tape light on the tape recorder about 2 seconds after the pass - after the data tape was completed.

CC Understand.

SC Yeah, that - that means that we did in fact come to the end of tape also. Besides getting the light we were in fact at it, cause we did the (garble).

CC Roger, understand.

CC And, CDR, Houston. We think possibly what you might have seen when your EVA on the command module was the two overboard dump nozzles for - one for water, one for urine and I'm told they do have a sort of blunt appearing goal to cover. And if you're - that might be a - a thought. If you are familiar with the way they look and that wasn't it, maybe we'll think some more.

SC Yeah, that's probably what it was.

CC Roger.

SC Okay.

CC Skylab, Houston. For the photography question, I'm told that the - for out-the-window photography with the color interior film, you should set a ASA to 500, 500 vice 160.

SC Oh, ho. That's backwards from what we had. Glad we asked the question, though. We've been shooting it at 16 - 160 ASA and the film is labelled ASA 500.

CC Well, why don't we recheck our answer?

SC Why don't you do that, because the twix came up - the second twix that came up we got on that because we were reviewing your what in effect messages message last night. And my remembrance of that because we've lost that twix. Yeah, that's why we brought the subject up was to take color interior which is labeled ASA 500 and shoot it out the window at 160th, but if you use it inside also, the same roll of film continue to shoot it at 160 and then they'll process it that way it'll be okay inside and outside. So, let's doublecheck the answer, please.

CC We certainly will do that.

SC Thank you, sir.

END OF TAPE

SL-II MC-803/1

Time: 07:31 CDT, 17:12:31 GMT

6/10/73

SC And, Houston. For your information we were discussing, tomorrow is the first day that we get to where we get to break out the last thing.

CC Hmmm.

SC Exactly, that's what I thought. And I think I know what he's talking about.

CC (Laughter) Well, I won't say Roger.

SC I'll rephrase it. It's the first time we do something for the last time.

CC Hey, okay.

SC Hey, Dick, I guess the other thing on this fire sensor, if in fact that the fire sensor assembly and we're reading the malf procedure, is what is no good anymore and it got (garble) by the sun, is it possible that even, that it could get BOG power off, or does it have to have electrical power on it? In other words, when we do our next EVA, do we need to cover that thing or do we just need to turn it off?

CC That's a good question, and EGIL is thinking about it, Pete. We're 1 minutes from LCS. We're going to see you at Goldstone at 12:38.

SC Okay.

END OF TAPE

SL-II MC-804/1

Time: 07:36 CDT, 17:12:36 GMT
6/10/73

CC Skylab, Houston. We're AOS Goldstone
for 6 minutes.

SC Roger.

CC Skylab, Houston. Be advised we've - we're
doing unattended ops, we've had another high voltage tripoff
on S055 and we're going to command it back on.

SC Okay.

CC Skylab, Houston. Be advised we're about
20 seconds from LOS. We're going to see you at MILA at
12:50 and we're going to be dumping the data tape recorder
at MILA.

SC Okay.

PAO This is Skylab Control. Now we're passing
over the top of the Texas area of coverage and we'll acquire
at MILA in about 5 minutes. We don't have Bermuda coverage
this revolution. The Bermuda tracking station is committed
to supporting the unmanned radio astronomy Explorer B sate-
llite launch, from Cape Kennedy. That is scheduled for 10:13
eastern daylight time, 9:13 central and the Bermuda tracking
station is committed up through revolution 389. Now we're
currently just beginning revolution 388, coming down across
the United States just above the Great Lakes. At 12 hours
46 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-805/1

Time: 07:48 CDT, 17:12:48 GMT
6/10/73

PAO This is Skylab Control. We're now in contact with Skylab through the MILA tracking station, Merritt Island Launch Assembly tracking station, at Cape Kennedy. And we'll stand by for conversation with the crew through MILA.

CC Skylab, Houston. We're AOS at MILA for 4 minutes.

SC Roger, Houston. We're getting a lot of good pictures in the Great Lakes region and in New England, this morning.

CC Incidentally, I did check again in the backroom and you were right and we were wrong. The A - ASA settings for out the window photography should be 160 and that does coincide with the previous message you had onboard.

SC Glad to hear it, cause that's what we're using right now.

CC Right - you're doing the right thing.
CC Skylab, Houston. We're 45 seconds from LOS. We're going to see you at Ascension at 13:05 and I made a mistake a while ago, the Ascension pass is where we're going to be dumping the data tape recorder.

SC Oh, okay.

PAO This is Skylab Control. We're now out of contact through MILA and we'll be picking up the spacecraft over Ascension in about 11 minutes. There will be no change-of-shift press briefing following this shift. The oncoming Flight Director is Milton Windler and our spacecraft communicator and CAP COM is astronaut Bob Crippen, replacing astronaut Richard Truly, in the CAP COM position. Again, no change-of-shift press conference this morning. At 12 hours 55 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC806/1

Time: 08:04 CDT, 17:13:04 GMT
6/10/73

PAO This is Skylab Control at 13 hours
4 minutes Greenwich mean time. And we're coming up now on
acquisition of Skylab through the Ascension tracking station.
During the morning as we have loss of signal with Skylab,
we'll be turning the air - the release line over periodically
to Delta Launch Control at Kennedy Space Center for periodic
status reports on the preparations for the launch of RAEB, the
Radio Astronomy Explorer B satellite from Cape Kennedy this
morning.

CC Good morning, Skylab. We're AOS over
Ascension for the next 11 minutes; 11 minutes.

SC Hello again.

CC Hello, hello.

CC And, Skylab; Houston. Be advised we're in
the process of during nav update for you, so you might stop for
that, if you have any need for it.

SC Okay, we will. And I see the SCAN SPECT
light has gone out, so you must have fixed your high voltage
detectors.

CC Yeah, those thing have been tripping on
and off for us several times here.

SC Hey, Crip. I got an update on our prior
detectors (garble) information for you.

CC Go ahead.

SC We changed out the fire sensor assembly,
or whatever you call it; the detector itself. No change
in the status. We then went ahead and changed out the fire
sensor control panel, and that took care of it. So what we've
got in dome 432 locker now is a fire sensor detector that's
got some time on it, but it's apparently okay. And we've got
a control panel in there on which sensor 2 side is no good,
but sensor 1 side is. So that's still available as a spare
for those two places where we only run one sensor off the
control panel, anyway.

CC Okay. And say again where you stowed
that in, please.

SC Back where it came from.

CC Okay. Very good.

SC 432, 4-3-2.

CC That's fine. All right. Thank you.

END OF TAPE

SL-II MC807/1

Time: 08:10 CD1, 17:13:10 GMT
6/10/73

CC Skylab, Houston. We've completed our
nav update. The DAS is yours again. And we will need a
momentum INHIBITED, please - dump INHIBITED.

SC Okay, momentum is INHIBITED, Houston.
What's the reason for that?

CC We had one scheduled here - let's see -
it was supposed to be done - rog. The maneuver is supposed to
start you ZLV maneuver is supposed to start when you would
nominally be dumping.

SC Roger.

CC Skylab, Houston. We're 1 minute from
LOS. We'll see you again at Guam at 13:52, 13:32.

SC Okay.

END OF TAPE

SL-II MC808/1

Time: 08:15 CDT, 17:13:15 GMT
6/10/73

PAO This is Skylab Control. That's all the communications we'll be getting through the Ascension tracking station this revolution. The station at Carnarvon, Australia is committed to launch for the RAEB, radio astronomy explorer B satellite this morning from Cape Kennedy and will not be used for Skylab for this and the next revolution. Our next station to acquire will be Guam and that will be in about 35 minutes. At this time, we'll switch to delta launch control at the Kennedy Space Center for a status report on the launch of RAEB. This is Skylab Control at 13 hours 16 minutes Greenwich mean time.

END OF TAPE

SL-II MC809/1

Time: 08:48 CDT, 17:13:48 GMT
6/10/73

PAO This is Skylab Control at 13 hours 49 minutes Greenwich mean time. Skylab is in it's 388th revolution. We've just passed out of range of the Carnarvon Australian tracking station. That station was not up to support Skylab, however. And we'll be acquiring at the Guam tracking station where we expect to get voice and telemetry data in about 2-1/2 minutes. Coming up on this revolution and on into the 389th revolution, we'll have our seventh EREP pass of the mission. Skylab will be pointing it's cameras and remote sensors on the western hemisphere to study the resources of the planet and prominent in todays 6500-mile long pass will be studies of urban and regional planning for several areas of the Midwest. Also, an investigation of the environmental impact of Illinois Oakley Reservoir. Further data acquisition on the impact of strip mining in Indiana and surroundings sites. And data will be used for surveys of the urban growth in Cedar Rapids and Davenport, Iowa; also Ashville, North Carolina. Skylab's earth resources experiment package sensors including the seperate Earth-terrain camera, which provides detailed photographs of areas beneath the space station are scheduled to be turned on at 9:19 central daylight time. As the laboratory passes over the Fraser River, northeast of Vancouver, British Columbia, the sensors will be turned off, and the space station reoriented 27 minutes later when the space station has passed over the coast of Brazil into the South Atlantic Ocean about 600 miles south of Resende. Weather conditions over the midwestern United States appear good, with light cloud cover for the majority of the United States test sites. Heavier clouds are expected on the East Coast and in the Curibbean. And these clouds will be valuable sources of data for several atmospheric studies. Cameras will also be turned on during this EREP pass over Brazil to support investigators in that country, although heavy cloud cover is reported in this area and may prevent useful data from being acquired in South America. Three aircraft will be flying support missions recording additional data during the Skylab pass over South Dakota and the Wabash River area. In addition to a C130 aircraft flying from Langley Air Force Base in Virginia over sites within the continental U.S. and specifically in South Dakota, a C47 flown by the University of Michigan and a specially equipped B57 will cover the Wabash River test region.

CC
6 minutes.

Skylab, Houston. We're AOS over Guam for

CC
about 9 minutes.

Skylab, Houston. We're AOS over Guam for

CC
And, Skylab, we're going to be turning on the primary coolant loop once more, which means you're going

SL-II MC809/2

Time: 08:48 CDT, 17:13:48 GMT
6/10/73

to get a PRI COOL FLOW C&W.

CC And Paul, if you read, for the EREP maneuver we will need you to enable the TACS.

SC Say again, Crip.

CC Roger. We show that the TACS are inhibited at this time and we will need them in enabled for the maneuver.

PAO This is Skylab Control. As mentioned previously, the primary coolant loop is being brought on line this morning.

CC Skylab, did you copy my call regarding turning on the pri cool-primary coolant loop, and you should be getting a pri cool flow C&W.

SC (garble)

PAO Following yesterday's test of the primary coolant loop, the plan is to bring it on this morning. They'll be commanded on from the ground. And we hope to get additional data on the loop performance to reinforce our confidence that that loop is performing properly. With the improved electrical power system aboard Skylab, additional equipment is being brought on line. This is also having the affect of raising the temperature slowly in the workshop from the heat load introduced by the electrical equipment. EGIL reports that the temperature in the workshop is running around 75 degrees now, which is considered ideal. This has come up 2 or 3 degrees since the additional equipment was brought on. He doesn't expect the temperature to rise a great deal more, but the exact point of which it'll stabilize is not known. It is felt that the rise in temperature will be very gradual and should be very little from this point on.

PAO And our telemetry data shows that the primary coolant loop is being brought up. We're showing a flow rate of about 200 pounds per hour in the primary - primary loop, a little over 200 pounds in the secondary loop, which is also on line.

PAO And EGIL reports that the primary coolant loop is looking good. Our telemetry data shows the temperature there of around 47 degrees at the moment.

CC Skylab, Houston. We're 1 minute until LOS. We'll have you again at Guam at 13:52- correction, at Goldstone at 14:17, 14:17, and we're - have the primary coolant loop on; it looks good to us. We're going to leave it on. If any problems should occur while we're LOS, you can go ahead and secure it.

SC Okay.

SC Could you hear me over the coolant noise, Bob?

SL-II MC809/3

Time: 08:48 CDT, 17:13:48 GMT
6/10/73

CC
SC
mike.
PAO

Affirmative.
Okay. I got my mouth right against the
This is Skylab Control. We're now - -

END OF TAPE

SL-II MC-810/2

Time: 09:15 CDT, 17:14:15 GMT
6/10/73

SC A blinking RAD/SCAT gimbal light, but that's normal. Okay, I got a green on the tape recorder, green TAPE MOTION; a 192 green; a 190, green; and a 93 RAD/SCAT, green; and a 94, green.

SC Man, I hope this solid cloud deck isn't the five-tenths coverage you guys forecast.

SC They wouldn't do anything like that.

SC There's some holes out front.

SC Yeah, and I'm looking 45 degrees ahead.

SC Okay, Houston; for information, at 45 degrees forward, the only thing I can see through the haze is the Sun shining on some lakes.

SC 18:20:21. Okay, stand by; 47 on the FRAME COUNT, 2140 altimeter to STANDBY, I got an S191 READY light on time.

SC Altimeter to STANDBY, 44 MODE AUTO, MODE AUTO on 90 23:21. I'm standing by for it. I'm not going to do that. I'm going to do that on S193 polarization to 4, okay?

SC Okay, Houston. I got the reservoir on this side, but the desired side is under some clouds. We'll give it a try.

SC Okay.

SC MARK. 23:21 polarization 4, going shutter speed MEDIUM at 30 on S190. Here we go to B, 27; we got to put 92 to CHECK. That's a long time from now. What are you running over there, PLT?

SC Ground. . . .

END OF TAPE

SL-II MC-810/1

Time: 09:15 CDT, 17:14:15 GMT
6/10/73

PAO This is Skylab Control at 14 hours 16 minutes Greenwich mean time. Coming up on acquisition at Goldstone, California, and our 7th EREP pass of the mission. This will be a 6500-mile-long pass that begins in the northwestern United States, continues on down across the central U.S., out over the Caribbean, over Puerto Rico and on over Brazil. For 27 minutes of data gathering. We'll be acquiring at Goldstone in a little over 1 minute.

SC Five-tenths courage, the man says.

SC I have Goldstone in about 1 minute.

CC We got you now guys.

SC Hi, there; how do you read VOX?

CC Loud and clear.

SC Okay.

SC I just gave it to this friendly tape recorder, but I'll give it to you. 92's in CHECK, the door's OPEN; 91's ON, the DOOR's open; 90's ON, STANDBY, the door's OPEN. 93 RAD's in STANDBY, 93 SCAT to STANDBY, 93 altimeter's OFF, 94's ON. Verified green light, all doors are open, all tape recorder power's on.

SC Yes!

SC And while we're sitting here waiting to start, the secret of success on that S191 cooler is the C-7 start temperature we were starting with, start temperature about 35 percent, now, and it figures right on up. As soon as you bring on 191 power to about 45, then as soon as you turn the cooler on, it takes about 4 minutes for it to come-off scale high and it starts at 100 percent and then races right on down to 30. And for your information, we do not get the S191 READY light until it's dropped to 43 percent.

SC Which is about where it stays, huh, now?

SC No, it goes to 30; it drops to 30.

SC Yeah, all right.

SC Oh man, are the Cascades ever pretty this morning.

SC Stand by for an 18:24 EREP start coming up.

SC Man, oh man.

SC I got a picture of that for you, Paul.

SC Okay, good.

SC MARK. EREP START.

SC Got a TAPE MOTION light.

SC 92 to MODE READY.

SC 94, MANUAL. I want an AUTO CAL 2, what

do it.

SC Done.

SC S190 to MODE AUTO; ETC, AUTO.

SC SCAT's ON; RAD's ON.

SL-II MC-811/1

Time: 09:24 CDT, 17:14:24 GMT

6/10/73

SC Okay. I'm doing you a short shot of that first special there, Houston. I got A field. I'm not going to carry the full (garble) on it. I got to get on to the next one.

SC 25 1.3. 2458.

PAO This is Skylab Control. After an ontime lift-off, the unmanned RAE-B satellite appears to be on a good trajectory toward the moon. We'll have a wrapup summary report from the Cape on that as soon as we have loss of signal in this stateside EREP pass.

SC I'm on the -

SC I've got so much - -

SC Okay. Tracking the reservoir, Houston, on the next site.

SC Can't draw very good.

SC What doesn't?

SC Clouds through this thing.

SC With the yellow filter?

SC Yeah.

SC Once you get them identified, you can pick out details better, but I just prefer the light filter.

SC Oops!

SC You're going to blow my big deal here.

S192 to CHECK and 27 - -

SC (Garble) help me.

SC S192 to CHECK; 27:42. A little SCAT/RAD to STANDBY here.

SC Well, if you wanted clouds over land on this nadir swath, Houston, you're getting you some good ones. I'm giving you a few flicks of DAC. You didn't ask for it, but you're getting it.

CC Thank you.

SC 28:13.

SC Oh!

SC RAD/SCAT to STANDBY. RAD, STANDBY.

SC MARK. Altimeter is on. RAD's gone off at 28:10. RAD's off. 93 has gone CROSSTRACK CONTIGUOUS. (Garble) 30. S190's READY out at 28:59. That's funny. I don't have a READY light.

SC It's already timed out.

SC At least it quit running.

SC It sure did.

SC You know, when I looked down, the S190 READY light is out and going to STANDBY. EIC to STANDBY. Select fast frame 12. It's still running down there. I can hear that.

SC Okay. TC is STANDBY and it's frame count is 373.

SC Okay.

SC Hey, you got almost 2 minutes, huh?

SC Houston, you there? Must have been looking out over the water, huh?

SC Yeah.

SL-11 MC-811/2

Time: 09:24 CDT, 17:14:24 GMT

c/10/73

SC My ears are (garble).
SC And you find out on 41 you got to get it
all back on again by 53. That's assuming besides that - assuming
you started on time. Yeah, that's where you get in a box, man.
You miss one of the babies and you're screwed.

SC (Singing)

CC While you've got a blank spot here, we'd
like you to leave the TACS enabled for this dump coming up
after the maneuver.

SC Okay.

SC We suspect that would be a good idea.
It banked the wave pretty good going in.

CC Roger. We had a maneuver time problem.

SC What happened?

CC It was supposed to have been 25 minutes.
You maneuvered at 13.

SC Ho, ho. You mean we entered it wrong?

CC We're not sure. We'll talk about it later.

SC Okay.

SC Hey, Crip. On those VTS sites, on the first
run for the EREP guys, I'm not sure at all I got the right
field. The one I was on was probably north of the one they
wanted.

CC Copy.

SC The second, the special 14, I picked a
field and got a few seconds of tracking on it, and 520 of
them we got good.

CC 1 minute till LOS. Guam at 15:30 for a
data recorder dump also.

SC Okay.

SC We get 92 back on again?

SC Hey, Crip. Are you with me?

CC Affirm.

SC 35:31 (static)

CC Affirmative. Checks out.

PAO This is Skylab Control. Now we've had
loss of signal now through Mila and on this revolution, the
389th, the space station passes between the acquisition
circles of Ascension Island and Vanguard. And we don't
acquire again until - the Carnarvon location, and Carnarvon
on this rev is committed to the RAE-B launch. We will be
acquiring at Guam in about 54 minutes. Flight Director reports
that the EREP pass appeared to go smoothly. All equipment
judging from crew comments was performing as expected. The
crew did report some cloud cover, heavy cloud cover over the
northwestern United States that had been expected. There
also appeared to be some broken clouds over the central U.S.
At one point Pete Conrad remarked that they were selecting an
alternate site for tracking in the visual tracking system.

SL-II MC-811/3

Time: 09:24 CDT, 17:14:24 GMT
6/10/73

This EREP pass will continue on over Brazil; however, our weather reports earlier indicated that there would be considerable cloud cover over Brazil. At this time, we'll switch to Delta Launch Control at Cape Kennedy for a status report on the launch of the RAE-B satellite. This is Skylab Control at 14 hours 37 minutes Greenwich mean time.

END OF TAPE

SL-YI MC-812/1

Time: 10:27 CDT, 17:15:27 GMT

6/10/73

PAO This is Skylab Control at 15 hours 28 minutes Greenwich mean time. About 2-1/2 minutes away from reacquiring at Guam after a fairly lengthy period of silence. We expect to have acquisition for about 6-1/2 minutes through Guam. And one of the things that we'll be looking at is the performance of the primary coolant loop in the airlock module. During the previous revolution, we activated the primary loop to get a good look at it over a sustained period of time and see if the fix that was made yesterday is holding and if that loop is continuing to perform properly. The data that we've gotten on it up to now has suggested that it is performing properly, and is controlling the temperature very close to the desired 47 degrees Fahrenheit. And we'll take a look at it now when we receive data over Guam and see if that is continuing to be the case. At some point, the time has not yet been set yet, but we expect in the near future, a procedure similar to that used with the primary loop will be tried with the secondary loop, which has been the coolant loop that we've been using since the primary loop first went down. The secondary loop, however, is controlling on the cool side; and it's controlling at a temperature of about 40 degrees instead of the desired 47, indicating that the temperature control valve there is also a little bit on the cold side - controlling a little bit toward the cold side, dumping too much of the coolant into the radiator. Let's hope that the same procedure that was used effectively on the primary loop will bring the secondary loop up to the desired nominal. And that will be tried sometime in the near future. And we're about 25 seconds now from reacquiring radio contact with Skylab through Guam. We'll stand by for that acquisition.

CC Skylab, Houston. We're AOS over Guam for about 6 minutes, and we'll be doing a data recorder dump.

CC Skylab, Houston. If anybody's got an opportunity, we'd like to talk about that maneuver time problem we had for the EREP pass.

SC Go ahead.

CC Yeah. Apparently, we maneuvered with a 13-minute maneuver time, which was what was originally in the computer, and it wasn't updated with the 25-minute maneuver. Can you verify it for us that the 25-minute was put in?

SC Best of my knowledge, it was.

CC Okay. It was changed properly. The 10 minutes that you put in for a maneuvering out, worked out right and that's what you - what you went by. But apparently it didn't get updated on the initial part.

SC Well, it's possible that - We were in a hurry putting it in. And it's possible that the ENTER didn't get in it, or something. But I'm trying to remember, if it

SL-II MC-812/2

Time: 10:27 CDT, 17:15:27 GMT
6/10/73

didn't, why we would have gotten hung up somewhere along in putting the pad in, wouldn't we?

CC

Yes, you should have.

SC

Well, Paul put it in, and to the best of his knowledge he put it in correctly. It doesn't mean that we didn't make a mistake. But like I say, if he didn't get an ENTER in or missed a number, you know, I think we would have - you'd get a computer reject or something would happen that we couldn't have kept on going with the pad.

CC

That should have been the case. This is the first time we tried that with the secondary computer, and we are wondering whether we had a problem with it. I guess we'll keep looking at it and see what the story is. Thank you.

SC

Okay. I don't - I give it 50 50. I think we probably might have screwed it up - or the computer could have missed it, one of the two. We were in a hurry and we were a little late and he was putting it in pretty fast. But I still think we should have gotten a reject or something.

CC

Copy.

SC

Okay, I got a couple of questions for you.

CC

Go ahead.

SC

Okay, on the day 16 in the stowage book, day 16 transfers - it indicates that we change out our sleep restraint top blanket and address cover. And I can't find that spelled out anywhere in a system's housekeeping or - nor have I seen it come up in our pads. I was wondering about that one. That's question one. Question two is, we don't know what you intend to do with 509. But we would like to know whether you want us to take the launch locks off it or not, which we were going to do anyhow for SL-3, so that they didn't have to train for that. We're more than happy to remove the launch locks or leave them the way it is. We'd like an answer on that one.

CC

Okay; copy. We'll get people to research them for you.

SC

And, Houston; SPT.

CC

Go, SPT.

SC

Just a comment that occurred to me on this maneuvering time business. For future reference, it's a shame that we don't have feedbacks in this computer as we do in the command module computer. Being able to see what it is you've loaded before you proceed with it. We load something here kind of in the blind, and we press on without ever really knowing whether it was correct or not.

CC

We had the same comment down here.

SC

Okay.

SL-II MC-812/3
Time: 10:27 CDT, 17:15:27 GMT
6/10/73

SC Okay, Monston. My next question is
since the primary loop is running, I would like to check SUS 1
again. And also would like to know when we can clean up the
ICCs and turn off SUS 2.

CC Okay, we're still looking at it right
now, but we'll take your desires under advisement.

SC Okay. Well, I'm going to go up and turn
on SUS 1 at the 317 panel or whatever it is, just to check
that caution and warning thing.

CC EGIL - we would prefer if you did not do
that right now, Pete.

SC Okay.

END OF TAPE

SL-II MC-813/1

Time: 10:34 CDT, 17:15:34 GMT
5/10/73

SC Let me know when I can check it.

CC You're welcome.

CC Skylab, Houston. We're 1 minute from

LOS. We'll see you again at Goldstone at 15:54; 1554.

And, Skylab, we've just up-linked a - an addition to your solar activity. And there's a prominence coming over the east limb that we'd like to modify Paul's run at around 17:00, and that gives you the details of what we'd like you to do.

SC Okay, Houston.

CC And, Joe, you might want to take a look at it - in your next run.

SC You bet.

PAO This is Skylab Control. We're out of range now of the tracking station at Guam. About 15 minutes from reacquiring at Goldstone. And during that Guam pass, we got a good look at the primary coolant loop and everything appeared stable and running about as we had seen it previously, with the temperatures control valve holding the temperature right around 47 degrees; the desired level. This is Skylab Control at 15 hours and 40 minutes Greenwich mean time.

END OF TAPE

SL-II M0814/1

Time: 10:52 CDT, 17:15:52 GMT
6/10/73

PAO This is Skylab Control at 15 hours 53 minutes. The space station coming now on Goldstone, California. We're about to acquire through that tracking station. And on this stateside pass, one of the crew activities will be operation of the Apollo telescope mount experiments. And we expect to be getting ATM video. We have about 30 seconds until the expected acquisition. This will be a Goldstone-Texas-MILA coverage, and we have AOS now. CAP COM Bob Crippen is putting in a call to the crew.

CC - do it this pass, if there is no problem with that.

SC No problem.

CC And CDR, Houston; I have answers to a couple of those questions, if you can hear me.

SC Go ahead.

CC Okay, regarding your sleep restraint top cover changeout and headrest, we've got that scheduled currently for tomorrow; and it's in housekeeping 14 Echo.

SC Okay.

CC And we're currently - we agree with you about removing the launch locks on M509 and we're currently looking at putting that in the schedule some place.

SC Okay. Are you contemplating flying 509 on this flight or not?

CC I don't really believe they're thinking too seriously about that right now.

SC Okay.

CC Okay. And regarding the coolant loop, and checking out SUS 1; we currently have a test going on in St. Louis trying to duplicate what happened to it and we're - So, really what we're interested in is just finding out why we have the problem. And they suspect there's a possibility that there might have been some contamination in the EVA portion of the loop. That's one of the reasons we're a little bit reluctant to turn SUS 1 on and get that all set up right now.

SC Okay.

CC For your information, when we did check it out, that SUS 1, as far as this flow the other day, it did flow with no problem. So that portion of it does work.

SC Okay.

CC And we are probably - if - we definitely will be checking out SUS 1 before the EVA. And we'll probably be doing that within the next couple of days.

SC Okay.

SC Fine.

SC Very good.

SL-II MC814/2

Time: 10:52 CDT, 17:15:52 GMT
6/10/73

SC

How about shutting SUS 2 down?

CC

They don't - they don't - There is also
a - that PCDB is still hung toward the cold side a little
bit and I think they're pondering trying to do something
similar that they did to the primary coolant loop. And they
want to do that and get it all checked before they take that
SUS 2 off.

SC

Okay.

SC

Thank you.

SC

Thank you.

CC

Joe, when you get a chance, we'd like
to have you cycle your star tracker acquisition switch to
AUTO and to reenable the TACS.

CC

Correction, to disable the TACS.

SC

Yeah.

SC

Say Crip, for information, after the EREP
pass some time, I went to AUTO on the star tracker just for
grins and I checked it a few minutes and it was still in
AUTO with the shutter cock thing showing open. And it was
several minutes after I started. I don't quite understand.
I didn't have time to look at it any further; those are just
the indications.

CC

Okay, copy that.

END OF TAPE

SL-IX MC-815/1

Time: 11:06 CDT, 17:16:06 GMT
6/10/73

PAO This is Skylab Control. That's all through
MILA for this revolution. We'll pick up through the tracking
ship Vanguard in about 10 minutes, and then following the
Vanguard pass, we'll have a period of about 1 hour where we're
out of contact before reacquiring again at Goldstone. During
that pass we were receiving ATM video in part from the on-
board video tape recorder. Between takes of the ATM video,
we were also seeing brief bits of yesterday's television, which
had not been erased from the recorder. At 16 hours 10 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-816/1

Time: 11:18 CDT, 17:16:18 GMT
6/10/73

PAO This is Skylab Control at 16 hours 19 minutes Greenwich mean time. And we're about 1 minute away from reacquiring through the tracking ship Vanguard. We'll stand by for that acquisition.

CC Skylab, Houston. We're AOS over the Vanguard for the next 8 minutes and we will be doing a data recorder dump at this time. Sorry I missed your last LOS call.

PAO Skylab is now in its 390th revolution and at this time the science pilot, Joe Kerwin, has the ATM experiment duties. Commander, Pete Conrad, and pilot, Paul Weitz, are scheduled to be taking care of housekeeping chores, physical training. They've also got time allocated in this next revolution for personal hygiene. And we'll begin eating lunch. Major activities this afternoon will be operation of the Apollo telescope mount, and medical experiments, M092 and M171; also M131 is scheduled with science pilot, Joe Kerwin and pilot Paul Weitz involved in the medical experiments while Pete Conrad operates the ATM this afternoon.

CC For the SPT, I know you're busy with your (garble) coalign, but you can just copy this later. Currently on housekeeping 28 Lema, that you're scheduled to do, it calls out urine bags and it was supposed to have been urine disposal bags on it for inventory.

CC Skylab, Houston. We're 1 minutes until LOS. We'll have you again at Goldstone at 17:31, 1731.

PAO This is Skylab Control, out of range now the Vanguard tracking ship. And about 1 hour - or 2 minutes away from reacquiring at Goldstone. As we begin to go more and more off range, we'll reach a point this afternoon where we'll go a complete revolution or more without station coverage. At 16 hours 29 minutes, this is Skylab Control.

END OF TAPE

SL-II MC817/2

Time: 12:29 CDY, 17:17:29 GMT

6/10/73

CC Paul, do you still have that pad with
the numbers on it for the 25 minutes?

SC Yeah.

CC Okay. You've got a GO to go ahead and
try it.

SC Okay. (Garble)

SC Okay. (Garble) I guess.

CC Paul, we're going to display a single
memory location, so if you'll give us the DAS for a minute there,
we'll make sure whether it got down or not.

SC Ail right.

SC You still there, Houston?

CC Affirmative.

SC Hey, I've run this CO test and it appears,
taking into account the original color of the tube to start with,
that the CO is somewhere between 0 and (garble) 25 parts per million.
But it essentially didn't change the tube at all.

CC Okay. I understand it didn't really change the
color and between 0 to 25 parts per million. And, Paul, the DAS
is yours again.

SC Okay. Tank it?

CC Rog. And for you guys information, on
page 4-11 of your ATM systems checklist, it gives the memory
location of the commanded maneuver time. You might - you
could look at it if you wanted to verify it getting in.

SC Okay.

PAO This is Skylab Control. The space sta-
tion now out of range of the Texas tracking station and about
13 minutes away from Vanguard, which will be our last station
contact until the vehicle gets around to Hawaii in a little
over an hour - hour and 20 minutes from now. Another relatively
quiet pass that time. The crew involved in some housekeeping
activities. And we suspect that they'll also be getting lunch
if they're not already eating their noon meal. At 17 hours
45 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC817/1

Time: 12:29 CDT, 17:17:29 GMT

6/10/73

PAO This is Skylab Control at 17 hours 30 minutes Greenwich mean time with Skylab coming up on Goldstone for our last stateside acquisition of the day. And it's been a relatively quiet period in Mission Control. This is our first acquisition in over an hour as we reach that period of time where we have rather strung out station coverage, during the flight where we have only two - at this particular time, only two - if you count Texas, which is a very short amount of coverage - three ground stations in a revolution. We'll have acquisition through Goldstone just the corner of the Texas area of coverage and then down across the Vanguard tracking ship and no additional coverage until we come back around to Hawaii on the following revolution. Skylab now in the end of its 391st revolution. Or correction 390th revolution coming up on the 391st. The Flight Plan calls for ATH operations with the Pilot, Paul Weitz, having ATM duties. Commander Pete Conrad, Scientist Pilot Joe Kerwin are scheduled to eat lunch during this period of time, and this afternoon we'll have medical experiment, M092, the lower body negative pressure and M171. Here is the call to the crew.

CC - - fifteen minutes.
SC Howdy, Houston.
SC Houston, CDR.
CC Go, CDR.
SC On the housekeeping 7 Kilo-1, have you got any particular place you'd like that taken? It's a CO sample.
CC Stand by 1.
CC CDR, Houston. On that housekeeping 7 Kilo-1, you can take that CO any place in the OWS.
SC Okay.
CC And, if the SPT is available, I was wondering if - whether he copied my change to his housekeeping 28 Lima message.
SC No, sir.
CC Okay. Currently in your remarks on your detail pad it calls out urine bags as part of that inventory. That was supposed to be urine disposal bags.
SC Okay. I interpreted it as such, and it's on channel B.
CC Very good. Thank you.
CC And, PLT. If you're not using the DAS currently, would like to try to put a maneuver time into the computer to see whether it takes or not.
SC Okay.
CC Okay. We're so doing.
SC How about a bike ride sometime, too?
CC Stand by 1, Paul.

SL-II MC818/1

Time: 12:56 CDT, 17:17:56 GMT

5/10/73

PAO This is Skylab Control, we're about to acquire for 7-1/2 minutes through the tracking ship Vanguard.

CC Skylab, Houston. We're AOS over the Vanguard for about 8 minutes. Sorry I missed that LOS call again.

SC Say, Crip, for some reason I misplaced the message that told me what to do with the six UCTAs that I came up with in the command module. I remembered that it said don't use them for the EVA, 'cuse they all fixed that tracer in them. Would you tell me where it is they wanted us to stow those six UCTAs?

CC Roger. Stand by 1.

SC Thank you.

CC Pete, regarding your UCTAs, the message stated that they should be stored in D, Dog, 426 and marked UCTA with tracers.

SC Okay. Very good.

CC Roger. And - -

SC Thank you.

CC P.J., we copy that you're operating K-Alpha in over-ride right now. Just want to make sure that you get it back to normal so that you won't be taking pictures on the dark side.

SC Thank you.

CC Skylab, Houston. That load of maneuver time that we did a while ago worked okay. You've got 25 minutes sitting in there. It's a maneuver time, for information.

SC Okay. Thank you, Bob.

CC Skylab, Houston; we're 1 minutes from LOS. We'll have you again at Hawaii at 19:05, 1905. And we'll be doing a data recorder dump at that station.

PAO This is Skylab Control. Space station over the hill at Vanguard now and 1 hour away from acquisition at Hawaii. Another relatively quiet pass. Continuing to operate with both coolant loops; primary and secondary. The primary temperature control valve holding at a steady 47 degrees, or very close to it. And the secondary loop also stable at - between 40 and 42 degrees which was what it has been operating at. And in the Control Center, and also at contractor plants, continuing to look into the situation on the coolant loops and attempting to develop sequence of events that led up to the problem that was experienced with the primary loop. Attempting to understand that problem and also, at the same time looking into some additional troubleshooting procedures with the secondary coolant loop. The current plan would be to attempt

L-II MC818/2

Time: 12:56 CDT, 17:17:56 GMT
/10/73

he same procedure with the secondary loop that was used with
he primary loop to open up the warm flow in the secondary loop
and get that temperature up to the desired level of around 47 de-
grees, as opposed to the 40-degree range that it has been operating
on. At 18 hours 7 minutes, this is Skylab Control, Houston.

END OF TAPE

SL-II MC-819/1

Time: 14:03 CDT, 17:19:03 GMT

6/10/73

PAO This is Skylab Control at 19 hours 4 minutes Greenwich mean time. About a minute away from, rather 2 minutes away from establishing radio contact with Skylab through the Hawaiian Island tracking station. Our first contact in over an hour. And continuing very quiet here in Mission Control. Aboard Skylab, Commander Pete Conrad is scheduled to be operating the ATM experiment, the Apollo telescope mount. A variety of small tasks for Scientist Pilot, Joe Kerwin, including some housekeeping activities. And Pilot, Paul Weitz, is scheduled to get a rest period. We have a call to the crew from CAP COMM Bob Crippen.

CC Skylab, Houston. We're AOS over Hawaii for about 6 minutes, and we will be doing a data recorder dump.

SC Roger, Houston.

CC Skylab, Houston. According to our review of channel B, you should be down to about two urine bags in the waste management compartment and tomorrow you're scheduled to resupply it. For tomorrow morning you might want to pull out a urine bag out of the dome locker for use tomorrow morning. That's in D410.

SC Okay. You're right. Thank you.

CC And, Skylab, Houston. In our reviewing of the data, it apparently - On that maneuver time problem we got into this morning for the CREP pass, the function code that was loaded in was mistakenly put in as a 52003 and which is a display code of course, and so that was the reason we didn't get the correct time.

SC Roger.

SC Houston, are you ready?

CC Skylab, Houston. We're 1 minute from LOS. We'll see you again over the Vanguard at 19:33; 1933.

PAO The Skylab space station has moved out of range of the Hawaii tracking site. We expect to reacquire in approximately 23 minutes. At 19 hours 11 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-820/1

Time: 14:30 CDT, 17:19:30 GMT

6/10/73

PAO This is Skylab Control at 19 hours 31 minutes Greenwich mean time. The space station is nearing the end of its 391st revolution around Earth. About a minute and a half away from acquisition at the Vanguard Tracking Station. According to the Flight Plan, the commander Pete Conrad, is at the Apollo telescope mount doing some Sun watching, while the other two crewmen are respectively resting and doing a little bit of housekeeping. Meanwhile here at the Mission Control Center, the flight controllers are talking about mission day 18. That's tomorrow, June 11th. We'll hold up the line for any radio communication with the crew over Vanguard during this pass, which will last about 10 minutes.

CC Skylab, Houston. We're AOS over the Vanguard for about 8 minutes.

SC Roger.

CC Roger. CDR, do you have a moment to talk to us, please?

CDR Go ahead.

CC Okay. We'd like find out about the desiccants in - the ones that you changed previously on 190. Did you - When you looked at them this morning, could you tell any color change, and if so, what color were they?

CDR No, I couldn't see any color change, and what we observed on the lenses was still there. There - just a minute. Now. Yes, Paul's right. The two good ones do look a little paler, as if they have started to take the moisture out. But we still couldn't tell any difference on the lenses. I'm not sure we (garble) the lenses with moisture anyhow. I wanted to ask you what you would like us to do with the suit desiccants in that we have six suit desiccants out now out of twelve because we put four each suit in instead of two each suit originally. And now we're down to two because we can cook those out. And I have six outish. Do we cook those out before we put them away, or just put them away as is? And when we get the answer to that question, then I was going to start making out S190 desiccants in the desiccant oven.

CC Okay, I think we copied all of that. And also, Pete, because the command module cryo O2 pressures are increasing due to being at minimum UDM, we would like in that housekeeping period you got about, oh, just before 23:00 for you to do the cryo O2 damp procedure that's in your system checklist - CSM system checklist, page S4-7.

CDR Just a second. S4-7. Okay.

CC Appreciate it. Thank you.

PLT Hey, Crip.

CC Go ahead.

SL-11 MC-820/2

Time: 14:30 CDT, 17:19:30 GMT
6/10/73

PLT Okay, I've been working on S009 for about 15 minutes. There's something wrong with it. It's sick. Now, on the CLOSED cycle, the motor cuts out. It only does it on the CLOSED; I don't know why. I went to set it last time, and the package was part way open. I suspect, now, part way closed, and stuck there. And even with no load on it, when you go to CLOSE, the thing just stalls out and spits and sputters and makes it - and, well, you've got about a 50-50 chance of a close in the package.

CC Okay. We copy it.

PLT Okay; so until we hear from you, I'm going to stow the package in the thing, CLOSED.

CC Roger.

CC P.J., could you tell us whether you think it might - it might have been binding, or do you think it was in the motor itself.

PLT No, I don't think it's binding, Crip. Because, as I say, I took the package clean out. And it won't even close by itself without the package in there. And it only does it on the CLOSED cycle. It's not - used to be, anyway. I'm pretty sure there is still some slip rings inside the gear wheel drive and that's not slipping because I can see the end of the axles on the gear. The axes, are now going together when they go. So it sounds like to me like it's the motor, when it goes in the CLOSED position for some reason - in the CLOSED direction.

CC Okay. Very good report. Thank you, Paul.

CC And just a little bit of info. For your information, we are - we have completed that ATMDC switchover that we've talked about, of course, and we're operating in secondary. We got part of the memory reloaded with the Y RATE GYRO scale factor - update rather. And we're going to be completing the load tomorrow morning.

SC Okay.

CC Skylab, Houston. We're about to go LOS in about 10 seconds. We'll see you again over Hawaii at 20:40, and we will be doing a data recorder dump at Hawaii.

SC (Garble)

PAO This S009 experiment that the pilot was talking about - that the pilot said was, "sick" is an astrophysics experiment, identified as nuclear emulsion. He said that he thought it was stuck in the CLOSED cycle. It stalls out and he said he thought it spits and sputters. With that kind of information, the flight controllers here at the Mission Control Center are going to check out that experiment, and perhaps come up with some kind of a fix, if indeed something is wrong. We will acquire again over the Hawaii tracking site in 56 minutes. At Greenwich mean time, 19 hours 44 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-821/1

Time: 15:39 CDT, 17:20:39 GMT
6/10/73

PAO This is Skylab Control at 20 hours 39 minutes Greenwich mean time. About one minute from acquisition of signal at the Hawaii tracking station. We just had an indication from the warbler here in the Mission Control Center that we are going to acquire the crew again. We expect to have about 10 minutes of air-to-ground and we'll stand by to hear any communication that comes from the ground up to the spacecraft and conversely from the spacecraft down to the ground.

CC Skylab, Houston we're AOS over Hawaii for about 10 minutes, for about 10 minutes. We will be doing a data recorder dump.

PLT Roger.

CC And CDR, if you've got a moment I need to talk to you please sir.

PLT He's making a pitch on B channel right now. I'll give him a holler as soon as he's through.

SPT He's busy right now and he says he'll be with you in a couple of minutes.

CC Thank you.

CDR Go ahead, Houston.

CC Okay, Pete. On the previous ATM rev you did for us we copied that 82-A was in SHORT instead of being in LONG. Can you confirm for us one way or the other what the wave length was?

CDR The wave length was LONG.

CC Okay, you say you ran it in LONG, is that correct?

CDR That is correct.

CC Okay.

CDR It's in LONG right now.

CC Roger, and the pass before this it was in LONG also?

CDR That's right and what static do you want on the (garble) (garble)? I got it running on three right now.

CC We'd like that on one, Pete.

CDR Okay, I'll go to one.

CDR Are you talking about the five-minute exposure lens size or the one minute and 40 second exposure lens size? Both (garble) in lock.

CC Okay.

CDR You might look at 56 right now - no I take it back, by golly it did not stick in active 1 launch, it went on through. I'll have to eat my words.

CDR Okay, Houston, the (garble) is in 1 and it's all rigged up.

SL-II MC-821/2

Time: 15:39 CDT, 17:20:39 GMT

6/10/73

CC

Roger, copy.

CC

Skylab, Houston we're about 30 seconds from

LOS. We'll see you again over Vanguard at 21:12, 21:12.

CDR

Roger.

PAO

Communication between the Skylab space station and the ground during this Hawaii pass was relatively limited - due in part to the fact that the Commander was at the Apollo telescope mount and the other two crewmen were performing a medical experiment, the M092, lower body negative pressure experiment and the M171 metabolic activity. In the case of the latter, the Science Pilot, Joseph Kerwin, was the subject and Pilot Paul Weitz, was the the observer. We will pick up the space station again at 19 hours - correction - 19 minutes 24,25 seconds over the Vanguard tracking site. And we'll have the space station for approximately 8-1/2 minutes. At 20 hours 52 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-822/1

Time: 16:09 CDT 17:21:09 GMT

6/10/73

PAO Skylab Control Houston, at 21 hours 9 minutes Greenwich mean time, approximately a minute and a half from acquisition of the Skylab space station by the Vanguard tracking site. Nearing the end of the 392nd revolution. We'll stand by for air to ground over the Vanguard site. Expect to have the station in communications for about 8-1/2 minutes.

CC Skylab Houston. We're AOS over Vanguard for about 8 minutes.

CC Skylab Houston. We're about 30 seconds from LOS. We'll have you again at Hawaii at 22:23, 22:23.

CDR 22:23, bye bye.

PAO When the Skylab space station came into communications range with the Vanguard tracking ship the medical officers reported that the Science Pilot was right in the middle of his metabolic activity experiment. The M171, which among other things includes riding the ergometer. They reported his heart rate at the offset had approximately 140 beats per minute, indicating that he was pumping that stationary bicycle like a proverbial 60. He then eased off to approximately 70 beats per minute. And when we last saw his indications he was down to approximately 67 beats per minute. That is with the ergometer in the vectorcardiogram system acronym VCG, which is all part of the M171 metabolic activity. We have gone beyond the tracking station capability of Vanguard. We'll acquire again in approximately 1 hour at the Hawaii site for a relatively short pass, approximately 55 seconds to a minute. So at 21 hours 22 minutes Greenwich mean time, this Skylab Control.

END OF TAPE

SL-II MC-823/1

Time: 17:48 CDT, 17:21:48 GMT
6/10/73

PAO This is Skylab Control, Houston, 22 hours 48 minutes Greenwich mean time. About to acquire the space station after a long period of time when it was out of contact with any of the tracking stations. We're about a minute and a half away from acquisition at the Vanguard site and we will stand by for radio communication with the crew.

CC Skylab, Houston we're AOS over Vanguard for the next 10 minutes.

PLT Okay.

CC Sorry about that Hawaii site (garble) We learned after we'd called it out to you that they weren't going to have it.

PLT All right.

CC And if CDR's available I have an answer to his question regarding the suit drying desiccant.

CDR Go ahead.

CC Okay, you're not to dry the six additional ones. Just go ahead and stow them back in 424.

CDR Okay, thank you. Listen, we have a bit of a problem with S052. It's on B channel, but I'll give it to you on real time now. I went to - I've met all the prerequisites with the READY light and went to OPERATE in STANDARD and it will not go to OPERATE. Now, we've gone through the malf procedure and we have wound up down to where the problem is turned over to you because it says in the malf procedure we either have a camera failure or a primary programmer failure. Okay.

CC Okay, let me see if our ATM people have got any questions on that.

CC Pete, about all the information we can give you right now is we have noticed an increase in camera temperature and we'll take a look at it.

CDR Okay, it still works fine and looks good and everything. It - as I said, malf procedure left it there, so it's over to you.

CC Rog.

END OF TAPE

SL-II MC-824/1

Time: 17:53 CDT 17:21:53 GMT

6/10/73

CC Skylab Houston. We're 1 minute to LOS.
We'll have you again over Ascension at 23:03.

CDR

Roger.

PAO

During the acquisition at the Vanguard site the Commander, Charles Pete Conrad reported what appears to be a problem in the S052 camera, that's the white light coronagraph camera as part of the ATM experiments group. He said that he attempted to operate it in the standard method and he had no success. And he speculated that either the camera magazine failed or the primary program failed. And told the ground that they should take it from there. They accepted the challenge and are now looking into the problem, and will come up with some resolution during subsequent passes. There is a change of shift briefing scheduled in the News Center Briefing Room at approximately 6:15, some time between 6:15 and 6:30 p.m. central daylight time with Milton Windler the Flight Director of the off going maroon team participating. At - well we're practically a minute and a half away from acquisition at the Ascension tracking site. We will leave the line up for the air to ground that we expect over Ascension. We'll be in communication with the crew for about 9 minutes and a half during the Ascension pass.

END OF TAPE

SL-II MC-825/1

Time: 18:02 CDT, 17:22:02 GMT
6/10/73

CC Skylab, Houston, AOS 10 minutes.
PLT Roger, how are you this evening, Bill?
CC Very well, know the nights from the days
down here.
CDR Hey, Houston are you still with us?
CC We're still here. Go ahead.
CC Skylab, Houston. We're standing by.
CDR Roger, are you going to have a CAL/ROC
tomorrow?
CC Stand by a half, Pete. Don't believe such.
CDR Also, Houston, when are you going to ship
up the - do you know when you are going to ship up the preliminary
plan for tomorrow?
CC They should be in the teleprinter now, Pete.
CDR Okay, we'll go look.
CC The NRL CALROC is scheduled on day 164 Pete.
And - -
CDR On 164. Thank you.
CC And we'll be LOS in one minute, Guam at
23:49.

PAO The Skylab space station has passed out
of range of the Ascension tracking station. CALROC meant -
was an acronym for calibration rocket. A launch of a cali-
bration rocket will take place on day 164 and translated that
is the 13th of June. We will next acquire the space station
over Guam in about 35 minutes. At 23 hours 14 minutes Green-
wich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-826/1
Time: 19:00 CDT 18:00:00 GMT
6/10/73

PAO This is Skylab Control, at 48 seconds into day 162. During the press conference, the change of shift briefing of the Skylab space station was in acquisition at the Guam tracking site. And we received approximately 3 minutes of radio transmission. We'll play that radio transmission to you at this time.

CC Skylab Houston. AOS for 7 minutes.

CDR Roger.

CC SPT Houston.

SPT Go ahead.

CC You're scheduled to monitor, do TV monitoring on the XUB. After you've completed that, could you

get some white light coronagraph data on the VTR recorder? You have up to, they don't want it exceeded, up to 7 minutes on the VTR.

SPT Will do.

CC SPT Houston.

SPT Go ahead.

CC We're going to be uplinking some loads for the computer here, so if you would stay off the DAS until we give you a call please.

CDR Okay. And while you're there Phil, let me give you the day 160 evening status report, which you apparently didn't get.

CC Go ahead Pete, we're standing by.

CDR Okay Alfa CDR 158, SPT 150, PLT 250. Bravo CDR 4042, SPT 7218, PLT 3759. Charlie CDR 6084, 6081, 6083; SPT 6678, 6677, 6681; PLT 6800, 6811, 6813. Delta CDR 2/12/1255 1/05/0250; SPT none; PLT 2/15/2300. Echo none, none, none.

CC We copy Pete.

CDR And the evening questions. Number 1, the PLT did go over on SUS 2 and I don't think any of us noticed any difference during the EVA. Question number 2 doesn't make sense. I don't understand it. So that will have to be retransmitted. It says for the CDR and the SPT weren't you already on SUS (garble) LSU during the EVA prep 1.2-9. And I guess I've got to look in the book or something. And you've got the day 160 medical data. And the answer to question number 4 would you consider adding M551/2 and 3 to your shopping list after we did figure up (garble) verification on M551-1. And I guess that's okay with us.

CDR Copy that Houston?

CC We copy Pete.

CDR Okay.

CC Skylab, we're going LOS. We'll have you

at Vanguard at 00:26.

CDR Roger.

SL-11 MC-827/1

Time: 19:25 CDT, 18:00:25 GMT
6/10/73

PAO This is Skylab Control, day of year 162,
25 minutes into the new day. The space station is ending it's
394th revolution. We are approximately a minute and a half
away from acquisition at the Vanguard site and we'll stand
by for the radio communication between crew and ground.

CC Skylab, Houston AOS for 11 minutes at Van-
guard.

CDR Roger, Houston, are you ready for the evening
status report?

CC That's affirm, Pete.

CDR Okay, the CDR ate everything plus he's going
to eat two cans of butter cookies. And he had two optional
salts. SPT ate everything plus one extra ounce of water and
that was it for him. PLT - wait one. PLT ate everything plus
one H2O DELTA and 5.5 optional salts.

CC Copy.

CDR Excuse me - correct (garble) says zero Delta
on the water.

CC Copy.

CDR Okay, the photos for day 161: 16 millimeter
is EREP BH02, 65 S 487 Delta. Charlie India 05 47, Charlie India
01 and 487 I think it's Fox. Charlie India 05 40 percent
Charlie India 01; 35 millimeter CI26 60 frames - it's complete.
CI28 04, CI34 all complete 60 frames, CI27 58, CX06 089. The
ETC 373, EREP set Oboe was completed today. We loaded S190
set P in the drawer L. The drawer A configuration is as follows
A-1 02, Charlie India 0540 Charlie India 01 A-2 was 03, Charlie
India 06 62, Charlie India 03 A-3 06, Charlie India 07 00,
Charlie India 04. A-4 is 05, Charlie India 65, 100 percent,
Mike Tango 11. Okay, there were no flight plan deviations
today, no changes in stowage, inoperable equipment S052 you
know about and we have one comment on tomorrow's flight plan.
Joe said he very carefully debriefed a waste of time to
do an M172 cal. If you want it done per checklist - old check-
list it'll get done in an hour. If you want it done right it's
going to take him two to two and a half hours to do and y'all
can advise us later on what you'd like to do on that.

CDR And that's it.

CC Okay, we're making - we're working a very
much abbreviated procedure on that 172. We'll get that up
to you and if you get an opportunity to comment on what you
think it'll take on time we would - -

END OF TAPE

SL-II MC-828/1

Time: 19:31 CDT, 18:00:31 GMT
6/10/73

CC - abbreviated procedure on that 172. We'll get that up to you and if you get an opportunity to comment on what you think it'll take on time, we would appreciate that. We've tried to reduce it by two-thirds.

CDR Oh, this is a new procedure you're sending up huh?

CC A one time only, that's affirmative.

CDR Oh, okay. Very good, I understand - we'll go for that one then.

CDR You guys got any news for us tonight?

CC We're still having trouble digging that up early Pete. We should have that again about the same time as last night.

CDR Oh, okay. Very good.

CC Things are pretty quiet here on Earth.

CDR Well, it's pretty quiet up here. We had a good work day and it sorta sounded like you guys were running on a very light operation down there today.

CC Hey, Pete you three up there can keep those 300 busy and you're turning all day long down here, you'd be surprised.

CDR (Laughter)

CC They haven't even gotten the data yet.

CDR No, they couldn't - defense as a good offense. You guys keep us three busy too.

CC We copy, Pete.

CDR How about asking the CSM fellows - I see that cryo press is down to 850 and I would assume that it'll hold at 850 with the poly choke where it is.

CC Okay, I'll ask somebody.

CC And just info Pete on that 172 procedure. We'll try and have it to - subjected to the sort of thing that he went through on that last cal on that.

CDR Okay, fine.

CC Skylab, LOS in one minute. Ascension at 00:40 and Pete, we're trying to get you clarification on question two. Also - -

CDR Okay, I haven't looked at the EVA checklist. Maybe it'll make it self-explanatory when I go up there and (garble)

CC I don't think that'll help you, Pete.

CC Also, it appears that the S052 camera is jammed and we would like for you to attempt to operate that normally on the next schedule.

CDR Okay.

CDR Then you don't want us to do an EVA tonight to change it, huh?

SL-II KC-828/2

Time: 19:31 CDT, 18:00:31 GMT

6/10/73

CC
CC
dering around in the

CDR

That's affirm.

Pete, no telling what you might run into wan-
dark out there.

(Laughter)

END OF TAPE

SL-II MC-829/1
Time: 19:39 CDT 18:00:39 GMT
6/10/73

CC Skylab Houston. AOS for 8 minutes.
SPT Roger.
CC What do we have going there, evening song?
SPT A message to Lee this week (garble) I'm
listening to the Credo in Latin, and she'll know how happy I am.
CC Copy.
CC And be advised that we're configuring
the gyros for sleep, Y 1 and 2 ON and 3 is backup.
SPT Roger.
CC And we've just got a few little news items
here if it won't interrupt anyone.
SPT Yeah.
CC It says that Skylab isn't the only space
news today. Explorer 49, the radio astronomy satellite
was launched this morning from Kennedy. It'll orbit the Moon
and record deep space radio signals. It may give scientists
clues on the early history of the Universe. You might watch
for it going by.
SPT (garble)
CC And on the political scene, it says that
Egyptian President Sadat is in Libya today to discuss the
planned merger of - -

END OF TAPE

SL-II MC-830/1
Time: 19:47 CDT, 18:00:47 GMT
6/10/73

CC - the political scene it says that Egyptian president Sadat is in Libya today to discuss the planned merger of Egypt and Libya. Also, the - President Nixon is proposing a new cabinet level department to be called the Department of Energy and Natural Resources. Don't know whether you're aware of it but they're limiting gas to - at a lot of places down here to 10 gallons per fill-up and that sort of thing. And Houston lost yesterday, Pittsburgh 4-1. Also, today Richard Teddy won the Alamos 500 with a Dodge Charger, Brinker was second. Here's a late one that says the Astros won over the Pirates today. The Cubs won over (garble) 8-7.

CDR They'll do it, I'll tell you.
CC And we're 30 seconds to LOS here. And we've got the conference coming up.

CDR Thank you, Houston.
CC And Skylab, we're AOS again for approximately three minutes.

CDR Roger.
PAO The Skylab space station has - -
CC - in Guam at 124.

CDR Roger.
PAO As you heard the Skylab space station has gone over the hill. We'll re-acquire at the Guam tracking site in 25 minutes. At one hour Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-831/1

Time: 20:21 CDT 18:01:21 GMT
6/10/73

PAO This is Skylab Control at 1 hour 21 minutes Greenwich mean time. The Skylab space station is about 2 minutes and a half from acquisition at the Guam tracking site. During the pass just completed over the Canary Island tracking station the surgeon Dr. Charles E. Ross, held his daily medical conference with the crew. And this is what he reports, and I'll quote his "The Skylab crew is in good physical condition and feel well rested. No problems of a medical nature were transmitted by the Science Pilot, Dr. Joseph Kerwin." And that's the end of the daily medical bulletin, a short one. We're a minute and a half away from acquisition. At this time, we'll keep the line up for any radio transmission with the crew.

CC

Skylab Houston. AOS for 10 minutes.

SPT

Roger.

CC

CDR Houston.

CDR

Go ahead.

CC

Pete, avoid a caution and warning on the cryo tank tonight. We recommend that you remove the poly choke. You leave the high pressure vent hose connected, since it has only, and this will give you a rise of only 1 pound per hour. And we confirm that you have 860 pounds pressure in that.

CDR

Okay, we'll secure the poly choke (garble) You want to take the poly choke off, not shut off the supply, right?

CC

Stand by a second on that one CDR.

CC

Pete, if we understood your last transmission, that simply remove the poly choke but do not, repeat do not turn off the supply.

CDR

Okay, I understand. Thank you.

END OF TAPE

SL-II MC-832/1

Time: 20:27 CDT, 18:01:27 GMT
6/10/73

CC Also, CDR, we have the teleprinter message coming up for the 172 procedure which is not really a cal procedure, and it's coming up on this pass for your review.

CDR Roger, Bill.

CDR Okay, Bill the choke is off, the EVA O2 supply valve is OFF and the vent is hooked up and that ought to take care of it for tonight.

CC We concur with that Pete.

CC SPT, Houston.

SPT Go ahead.

CC We confirm on S052 that you have a camera failure - the programmer is all right. We want you to terminate the mode with a STOP and put manual power switch to STANDBY, that's main power switch - main power switch to STANDBY.

CC Also, do not proceed with the video recording - the white light coronagraph.

SPT Roger, Houston.

CC Skylab, Houston, LOS in one minute through Vanguard at 02:05.

SPT Roger, Houston.

SPT Houston, SPT. On the H-alpha up here - this is just for information - it looks as though there's a subflare in active region 27, I believe it is, and 07062.

CC Copied that, SPT.

SPT I'm just going after it.

PAO We appear to have passed out of communication range with the Guam tracking site. The ATM officer here advises that apparently there is a camera failure on the S052 experiment, the white light coronagraph experiment part of the ATM, and that he is now busy trouble-shooting to attempt to find out what the problem indeed is. The S052 was terminated and is now on STANDBY. Tomorrow, mission day 18 will be highlighted with an EREP pass - identified as Earth Resources experiment number 8 - pass number 8. Starting at about 12 minutes after 10:00 central daylight time, and continuing for 28 or so minutes until 10:40 the track is in a - from a northwesterly to southeasterly direction, commencing at the other side of Portland, Oregon, cutting across the United States. Of interest to the people in Texas and Oklahoma will be the fact that the pass cuts through the Dallas area and one of the highlights of the pass will be for the crew to take pictures of what are expected to be some rather severe storms in the area of the northwest of Dallas. The pass itself is approximately 6700 nautical miles long and will end up in the South Atlantic Ocean, southeast of Sao Paulo. We expect since there is moderate cloud cover over most of the area that we will have

SL-II MC- 837/2
Time: 20:27 CDT, 18:01:27 GMT
6/10/73

a lot of weather information from the pass tomorrow. Concurrently with the EREP pass two aircraft will depart Ellington and one of them will fly over the Gulf to seek ground truth and the other will fly in a northerly direction to seek ground truth. Also, on tap tomorrow are the usual medical experiments the M092 and the M171. Next acquisition will be at the Vanguard tracking site in 26 minutes. We'll be up for about seven minutes there. At one hour 39 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-833/1

Time: 21:03 CDT 18:02:03 GMT

6/10/73

PAO This is Skylab Control Houston at 2 hours 3 minutes Greenwich mean time. We're about a minute and a half from acquisition at the Vanguard station about an hour from when the crew will be given a good night according to the flight plan. Flight plan indicates that all 3 crewmen at this time are in or are just about to enter their presleep activities. We'll stand by for any kind of transmission between ground and crew.

PAO The Skylab space station has moved beyond the Vanguard tracking ship. There was no communication at Vanguard. The network officer tells us that the reason we had no air to ground was that there was an apparent antenna problem with the tracking ship Vanguard, and we were unable to acquire any information at this particular time. It is not a spacecraft problem, but rather a ground problem which we feel comfortable that we can fix without undue delay. Our next acquisition is at the Canary Island site in 9 minutes. At 2 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-834/1
Time: 21:23 CDT, 18:02:23 GMT
6/10/73

PAO This is Skylab Control, Houston, two hours
23 minutes Greenwich mean time. About a minute and a half
from acquisition at the Canary Island station on revolution
395 - 396 starting rev 396. We should have continuous com
for about 19 minutes through the Canaries and Madrid. We
would expect that the crew is in its final pre-sleep activi-
ties at this particular time. We'll stand by for air-to-ground.
CC Skylab, Houston AOS one-five minutes.
PLT Roger, Houston.
CC And Vanguard lost its antenna which accounts
for us not calling you on the last pass.
PLT That's okay.
CC Skylab at LOS in one minute. It's the last
pass of the evening unless the CDR works late tonight. The
tape recorder will be dumped at Honeysuckle at 03:12.
CDR Okay, goodnight. The CDR is already in
his sack.
CC We copy.
CDR I'm not very dependable am I?
CC (Garble) Copy.
PLT Good night.
CC Good night.
CDR Have you two guys met?
SC (garble)
CDR Well, Bill, as a matter of fact this is
the first time I've settled down into my sack tonight reading a
book.
CC Hey, Pete, that probably is some sort of
a record for you isn't it?
CDR Yeah, we ran out of things to do. We
activated 509 this evening, then (garble) didn't have anything to do.
CC We copy.
CC We've got to be careful with that sort of
transmission, Pete. I saw three guys reach for 482's
down here to start scheduling.
CDR Yeah, Paul already hit me over the head.
CC (Laughter) We copy.
CDR On his way to -
PAO The last little bit of transmission be-
tween the ground and the crew before they went to bed - be-
fore they retired for the night. The Commander said we activa-
ted M509 - in a humorous manner he said it. M509 is the
astronauts maneuvering equipment and that raised a few eye-
brows here. It was indeed in humor. The Commander indicated
that he was in his - as he said - sack already, reading a
book, so we bid him good night on another busy day at the
end of the 17th mission day. At two hours 40 minutes Green-
wich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-835/1

Time: 06:00 CDT, 18:11:00 GMT

6/11/73

PAO This is complex 39 at the Kennedy Space Center where the rollout of Skylab III to pad B is beginning with first motion of the transporter. The trip to the pad will require an estimated 5 hours. We have a virtually wind-free morning, scattered clouds, but an ideal day for rollout. There are several thousand people gathered to observe the event, including representatives of the community, families of Kenney Space Center employees, and the Air Force Eastern Test Range, and the young people participating in the week-long space seminar sponsored by Hugh O'Brian, the United States J.C.s, and the National Secondary Principle's Association. The rocket, like Skylab II, rests on a pedestal 127 feet tall, which was constructed on a mobile launcher previously used for the Saturn V Apollo series of launches to the Moon. The rollout occurred precisely on schedule. There were no untoward events during the preparations. We should be on the pad shortly after noon today. This is Skylab Launch Control.

END OF TAPE

SL-II MC836/1

Time: 06:05 CDT, 18:11:05 GMT
6/11/73

PAO This is Skylab Launch Control at complex 39 of the Kennedy Space Center where the high steel framework of the mobile launcher and its red umbilical tower are emerging from the bay of the vehicle assembly building. Skylab III resting on a pedestal 127 feet tall, which was installed on the deck of the launcher, has begun its 5-hour trip to pad B from which it will be launched July 27 carrying the second Skylab crew to rendezvous and dock with the space station in Earth orbit. Preparations for today's rollout were conducted with no untoward event. We're proceeding on schedule and expect to be on the pad about noon today. This is Skylab Launch Control.

END OF TAPE

SL-II MC837/1

Time: 06:18 CDT 18:11:18 GMT
6/11/73

PAO This is Skylab Control, at 11 hours 20 minutes Greenwich mean time. We're scheduled to put in a call to the crew, a wakeup call, in about 3 minutes over the Honeysuckle Creek, Australia, tracking station. And we've got an active day of experiments planned, including Apollo telescope mount operations, EREP 8; S073, gegenschien and zodiacal light; the medical experiments, M092 and M171; the lower body negative pressure and metabolic analyzer using the bicycle ergometer, also M131, and one of the collary experiments, M512. One of the first activities the crew will have after completing their postsleep activities will be activation of the - operation of the Apollo telescope, rather. And we now have about 1 minute and 45 seconds before acquisition at Honeysuckle Creek. On EREP pass 8 today, EREP data will be collected for approximately 28 minutes along a path that extends from the mouth of the Columbia River across the Rocky Mountains, The Gulf of Mexico and Columbia and ends in the Atlantic Ocean near Sao Paulo, Brazil. The data will be used for snow mapping in the Cascade Mountains, forest inventory in Colorado, pre-severe storm conditions and oil exploration in Oklahoma, sea surface and wind conditions in the Gulf of Mexico and crop inventory in Columbia, as well as resource studies in Brazil. Our flight director on the current shift is Neil Hutchinson. Capsule communicator, CAP COM, is Hank Hartsfield. And we have a television replay scheduled at 7:30 this morning, which will be television TV 7 of the M171 experiment. This is television which was accumulated yesterday on the onboard video tape recorder, dumped to ground stations over the night and the early morning hours and is being assembled for replay at 7:30 this morning.

CC Skylab, Houston through Honeysuckle for 8 minutes. Good morning.

SC Go ahead, Houston.

CC Roger. Good morning. We're with you for about 8 minutes or 7-1/2 minutes now through Honeysuckle.

SC Okay, we're hustling around, doing PSA.

CC Skylab, Houston. Sometime at your earliest convenience, we need somebody to change out the teleprinter paper. We're about to run out and we'd also like to verify that you did get the last one we sent, which was odds and ends and message number 1830.

SC Unless you say "please," we won't do it, but otherwise we got the last message.

CC Roger. Please, would you change the paper? We might have some more things we want to send you.

SC Okay. It's on - we're on our way.

SL-II MC837/2

Time: 06:18 CDT, 18:11:18 GMT
6/11/73

SC Houston, CDR.
CC Go ahead.
SC You're going to have to send me the EREP
operate pad again. It got all garbled about halfway through.
CC Okay, we'll do her. Is there - is the
paper reloaded? Have we got enough paper to send it now?
SC Wait a minute. He's up there loading it
right this instant. Let me see.
CC Okay, we're planning on shooting that up
to you at Hawaii then, Pete, if you got time enough to get it
changed by then. Hawaii is still about 15 minutes away.
SC He's changing it right now. You can do
it at Hawaii.
CC Okay, good show. And the only other open
item I got for you this morning is a SAP update and we can get
that anytime it's convenient.

END OF TAPE

SL-II MC-838/1
Time: 06:27 CDT, 18:11:27 GMT
6/11/73

SC Neil, what do you have for me?
CC Roger. Solar activity update.
SC Okay. Well, uh, yeah. Go ahead. The SPT's
copying.

CC Oh, okay. Active region 37 has rotated
onto the disk at 28/.9 as a large spot group. And we had a
subnormal flare, which began at - in AR37 at 08:35, and filament
79 remains moderately active.

SC Copy.
CC Skylab, Houston; 1 minute till LOS; Hawaii
at 43.

SC Okay, Hank. You got your teleprinter
paper in.

CC Roger. Thank you, Paul.
PAO This is Skylab Control as the Skylab
space station goes out of range of the Honeysuckle Creek,
Australia tracking station. We'll be acquiring at Hawaii at
in about 12 minutes. And the crew at this time involved in
their postsleep activities after having gotten a wakeup call
over Honeysuckle. We heard from Conrad and Kerwin during that
pass. Did not recognize Paul Weitz in there, but we may
have heard from him also. At 11 hours 32 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-839/1

Time: 06:40 CDT, 18:11:40 CMT
6/11/73

PAO This is Skylab Control at 11 hours
41 minutes Greenwich mean time. Approaching the Hawaiian
tracking station, we'll be acquiring in about 2-1/2 minutes.
During the day today, they'll be attempting a procedure
to further troubleshoot and verify the - the performance of
the primary coolant loop. Both coolant loops, primary and
secondary, have been on line now since yesterday. The secondary
loop, of course, had been the active loop. The primary loop
brought on line after a troubleshooting procedure appeared to
free the hungup temperature control valve and that loop has
been performing properly ever since. One additional procedure
will be tied with the primary loop today, and that will be
to turn on the suit coolant circuit. The suit loop and the
airlock module primary coolant loop now flow through a common
heat exchanger. When the suit loop is activated, it'll put
a added heatload into that heat exchanger, which in turn
will signal the temperature control valve, TCVB, as it's
designated. But additional cold water flow is required to
handle the added heatload introduced by the suit loop. When
this signal reaches the temperature control valve in the form
of higher temperatures on the loop, the valve should cycle.
We just had the call to the crew. We'll stand by for conversation.

CC PLT, Houston. The weather has socked in
your VTS sites for today and we got an update for that pad.
And I'll be standing by for a call whenever it's convenient
for you to - We're replacing it with an area site.

SC Okay. He'll be with you in a little bit.

CC Okay. Whenever he's free, I'll be stand-
ing by for a call.

END OF TAPE

SL-II MC-840/1
Time: 06:45 CDT, 18:11:45 GMT
6/11/73

CC Skylab, Houston. Second GO at your EREP
OPERATE pad. Should be onboard now.

SC Okay.

CC Skylab, Houston. One minute until LOS;
Goldstone at 55.

SC Roger.

PAO This is Skylab Control. We'll have about
a 3-minute break here as we lose acquisition at Hawaii before
reacquiring at Goldstone. We will leave the line up during
that period of time because of the short duration of the drop-
out.

END OF TAPE

SL-II MC-841/1

Time: 06:53 CDT, 18:11:53 GMT
6/11/73

CC Skylab, Houston through Goldstone, 6 minutes.
SC Hello.
SC Henry, on this EREP stuff, can I change
the existing VTS pad, or should I write it on a new piece of
paper?

CC I think there's room on that. Just - all
I got to do is give you a couple of times and angles for a new
area.

SC Okay. Go ahead.

CC Okay. On - we want to substitute for your
three sites there, 350, 351, and 353, a special 04. It's an area,
and the time is 17:27, 45 degrees.

SC Wait a minute. Wait a minute.

SC Okay. Give that time again, Hank. 17:27?

CC That's right. 17:27, 45 degrees; 20:26,
0 degrees. And remarks: that's a special 04 and that's thunder-
storm data. It's in your site book there: (garble) tops, towers,
and clear area. And we would like you to use a DAC.

SC Okay, got it.

SC Where are these sites? Is that the group
around Oklahoma City?

CC That's affirmative.

SC Now, I assume that if I can see one of
those lakes or reservoirs through the clouds, no one will ob-
ject if I zing it over and get 10 seconds or so on one of the
sites. Is that right?

CC Stand by. Let me see what they say.

SC Okay.

CC Skylab, Houston. For info, we're going
to be executing one of the patches in the ATMDC, the first of
three, and we'd like to stay free of the DAS.

SC Okay, Hank. I'm free and I've got the
other two strapped down.

CC Roger. And, Paul, is - You got a GO on
tracking the - any of those sites if you can see them.

SC Okay.

CC Skylab, Houston. We're about 1 minute
till LOS. Bermuda at 05.

END OF TAPE

SL-II MC842/1

Time: 07:00 CDT, 18:12:00 GMT

6/11/73

CC

Skylab, Houston through Bermuda, 10 minutes.

SC

Roger.

CC

our ATNDC work.

Skylab, Houston. For info, we're continuing

SC

Roger.

CC

fill you in a little bit about that VTS thing. Just to
sites were in the (garble) area and the groundcheck is a
good bit south as you'll notice in the pad. The thunder-
storm area we gave you - the target's in the Dallas area.

SC

know that.

Oh, okay. Thank you, Henry. I'm glad to

END OF TAPE

SL-II MC843/1

Time: 07:09 CDT 18:12:09 GMT

6/11/73

CC Skylab, Houston; about 40 seconds from
LOS. Ascension at 22.

SC Roger, Hank.

PAO This is Skylab Control. We've had loss of signal now through the Barauda tracking station. We'll be reacquiring at Ascension in about 6 minutes. The crew at this time eating breakfast. Coming up on revolution 403 and 404 we have EREP pass number 8. This will cover ground track 48 and we'll begin taking data at 9:12 a.m. central daylight time at 47 degrees 18 minutes north latitude. And 126 degrees 50 minutes west, the data take ends at 9:40 a.m. at 26 degrees 15 minutes south, and 45 degrees 7 minutes west, with the pass beginning about 200 miles northwest of Portland Oregon and extending across the continental United States, the Gulf of Mexico, the Caribbean, Columbia and Brazil and ending about 200 miles south of Sao Paulo, Brazil, a track of about 7700 miles. The crew is scheduled to use the visual tracking system to obtain data over Oklahoma City. However that site is socked in by weather. They have been given an alternate target using the VTS, the visual tracking system, which is thunderstorm buildup around the Dallas area. At 12 hours 17 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-844/1

Time: 07:20 CDT, 18:12:20 GMT
6/11/73

PAO This is Skylab Control, 12 hours 21 minutes Greenwich mean time, and 1 minute away from regaining contact with Skylab through the Ascension tracking station. Coming up at 7:30 central daylight time, we have a replay of yesterday's television of the M171 experiments. Science Pilot, Joe Kerwin, riding the bicycle ergometer as part of the metabolic analysis conducted inflight. This replay will run for about 19 minutes - 19 minutes 30 seconds, to be exact.

CC Ascension 10-1/2 minutes.

SC Roger, Houston.

PAO Hank Hartsfield putting in the call and Pete Conrad acknowledging through Ascension. We'll follow the conversation live from this point on.

SC Okay, Houston. I was just checking this teleprinter. Nothing printed on this - Let me doublecheck and make sure the paper is in right.

CC Okay.

SC Hank, the paper's not in right. Just a minute and I'll get it in and we can - you can start sending the new updates.

CC Okay. Understand the paper is not in right. Boy; that's a relief.

CC Skylab, Houston. We just fired that load out to Ascension and standing by. As soon as you tell us you got the teleprinter squared away, we'll retranscribe it.

SC Okay.

CC And, Skylab, Houston. For info, when you bring up the star tracker this morning, you'll have to ENABLE star tracker control and alter the plane update. And I got the DAS entries if you need them.

SC We got them.

SC Go ahead and send it, Henry.

CC Okay. We'll fire it up again.

SC Hold it 1 minute. Hold it just a second.

CC Okay; will do.

SC Okay, Henry. Send away.

CC Okay.

SC Copying it just fine.

CC Roger. Copy.

END OF TAPE

SL-II MC-845/1

Time: 07:28 CDT, 18:12:28 GMT
6/11/73

PAO This is Skylab Control. We're ready now to begin with our replay of yesterday's television of the bicycle ergometer, experiment M171.

PAO Science Pilot, Joe Kerwin, is the test subject for this experiment.

CC Skylab, Houston. We're about 1 minute from LOS. Carnarvon will be up at 55 and we - Your EREP pad should be there.

SC Okay. Thank you.

PAO Science Pilot, Joe Kerwin, on the bicycle ergometer at this time, with Pilot, Paul Weitz assisting him as he attaches the harnesses and begins preparations for riding the bicycle ergometer.

PAO In our television replay at this time, Joe Kerwin appears to have gotten himself harnessed up with the assistance of Paul Weitz. The procedure on the ergometer is for Kerwin to pedal for 5 minutes with no workload, then for 5 minutes at a workload of 75 watts, which is about a tenth of a horsepower, another 5 minutes at 125 watts. And finally, 5 minutes at 175 watts, which requires an energy output of about a quarter of a horsepower. During this graduated series of workloads, measurements will be taken on oxygen consumption and CO2 carbon dioxide output in order to analyze metabolic efficiency. Also, blood pressure is monitored constantly with the cuff attached to Kerwin's left arm - upper left arm. And a vectorcardiogram reading of heart activity is taken during the activity.

PAO At the present time Kerwin is at rest and now starting to pedal. The at-rest time is to allow his heart rate to stabilize. Following the exercise period, he will again rest for a specified period of time, allowing a determination of how long it takes for the cardiovascular system to return to the normal rest level.

PAO You'll note in the picture that Joe Kerwin is holding on to support above his head. Normally, or prior to the mission, it was felt that crewmen would need to be restrained with straps in the bicycle ergometer. The purpose for this restraint system was to keep most of the workload on the legs, so that the arms did not have to exert a great deal of effort to hold him in the saddle and on the pedals in zero G; however, on operating with the bicycle ergometer in zero G, the crew found that the straps, the harness was more of a hindrance than a help and the procedure that you see Kerwin using is the one that they have elected to use and they find to be more effective than using the harness.

PAO Paul Weitz is preparing to move the camera in now for a closeup of the pedal action, moving the

SL-II AC-845/2

Time: 07:28 CDT, 18:12:28 GMT
6/11/73

rotating litter chair out of the field of view.

PAO A couple of other points of interest. You'll note around Kerwin's backside and on his front chest, three sensors attached. These are part of the array of sensors which provide inputs to the vectorcardiogram and in turn which provides the three-dimensional plot of heart electrical activity during this experiment. There's also a thermometer which Kerwin will place in his mouth at the end of this run. Also that thermometer is used to measure body temperature at the beginning of the run, so you get a temperature profile at the beginning and at the end of the exercise profile. Kerwin's feet are locked to the pedals with the triangular shoes so that he can get - apply force to the pedals for the full rotation, 360 degrees. And we see him alternating back and forth between restraining himself by hanging onto the handlebars and reaching up over head into the overhead structure.

END OF TAPE

SL-II MC846/1

Time: 07:49 CDT, 18:12:49 GMT

6/11/73

PAO This Skylab Control. We're now 34 seconds to reacquiring at the Carnarvon, Australia, tracking station. During the television replay, we saw the - what is probably the only fully automatic metabolic analyzer unit in existence. Joe Kerwin, taking his morning constitutional. The ergometer serves a two-fold purpose; one to obtain essential data on the metabolic efficiency of the crewmen.

CC We're AOS over Carnarvon for about the next 9 minutes and we'll be using the DAS to implement the last program load in the ATM.

SC Okay.

END OF TAPE

SL-II MC-847/1

Time: 07:58 CDT, 18:12:58 GMT

6/11/73

CC Skylab, Houston. My last call was a mistake; and we're not working on your computer right now. We're going to save that for stateside, and the DAS is yours, if you need it.

SC Roger.

CC And for the CDR, I don't know if you were told about it last night, but Richard Beatty won the Alamo 500 yesterday.

SC Yeah, I heard that. Buddy Baker was second. That's - that's great.

CC Roger. Also, this morning the guys are rolling out SL-III at - down at the Cape.

SC Very good. They still go for what? July 27th?

CC Affirm.

SC Gives us just enough time to clean our gear out of the trailers and turn it over to them.

CC Roger.

SC Captain B busy?

SC Oh, naturally, naturally.

SC Hey, when they decide to cook up whatever the extra power is, how about letting us know what their scheme is.

CC Pete, I didn't cop: all that you said. What about the extra power?

SC Yeah, I gathered they were working on some scheme to get more juice in here, and I was curious when they settle on one, what it is.

CC Roger. I don't know. I think - Probably you guys solved most of that for them.

SC Oh, okay. Well, Rusty was talking about looking at that umbilical pole on the side to see if it was okay. And I thought they were still thinking about bringing up something else with juice in it.

CC I think they're still looking at that. But I don't believe any firm decision has been made on it yet. And if P.J.'s listening, I think he's probably familiar with this solenoid vent thing that we're going to be doing a little bit later over the States. But it's in the SWS Systems on page 4.4. He might look at it and refresh his memory on it before we start doing it.

SC Okay. Thank you.

CC Skylab, we'll be LOS in 1 minute; have you again at Guam at 13:10.

SC Okay.

SL-II MC-847/1
Time: 07:58 CDT, 13:12:58 GMT
6/11/73

CC Skylab, Houston. My last call was a mistake; and we're not working on your computer right now. We're going to save that for stateside, and the DAS is yours, if you need it.

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SC Okay. Thank you.

CC Skylab, we'll be LOS in 1 minute; have you again at Guam at 13:10.

SC Okay.

SL-II MC-847/2

Time: 07:58 CDT, 18:12:58 GMT
6/11/73

PAO This is Skylab Control at 13 hours
6 minutes Greenwich mean time. We've lost contact through
the Carnarvon, Australia, tracking station. And we're
scheduled to reacquire at Guam in 4 minutes 40 seconds.
Here in Mission Control, we've had a shift handover. Flight
Director, Milton Windler, and his team of flight controllers
have taken over from Neil Hutchinson's team. And our capsule
communicator, CAP COM, at this time is astronaut Robert
Crippen. There will be a Change-of-Shift briefing. We
estimate that that will occur at about 8:45 central daylight
time in the Johnson Space Center briefing room. Again, that's
8:45 a.m. central daylight time, our estimated start time for
a Change-of-Shift Briefing this morning. This is Skylab
Control, Houston.

END OF TAPE

SL-II MC-848/1
Time: 08:09 CDT, 18:13:09 GMT
6/11/73

CC Skylab, Houston. We're AOS over Guam
for 7 minutes.

SC Roger, Houston.

SC And, Houston. We coming up over the States
next? We're all ready to do that SUS 1 checkout for you.

CC Okay. That's affirm. States next. Gold-
stone's about 13:34.

SC Okay. We could probably give you the check-
out then. It's all rigged and ready to go. And I'd like to get
a pass back down there again. I didn't want to pull all the
umbilical out of the (garble), and it's running through the
MDA forward hatch. I don't want to leave it there for a
long time.

CC Roger. Copy.

SC Also, while I'm pushing you guys again, I'd
like to clean up the (garble). We've got those hoses running
through (garble).

CC Okay. Having a little problem trying to
copy there, Pete. Understand you'd like to get all those
hoses cleaned up. That's our intent here to - as soon as we
get the status of these primary - primary loop checked out.

SC Okay. Very good.

PAO This is Skylab Control. We're up live
now over the Guam tracking station. About 5 minutes 40
seconds remaining in this pass.

END OF TAPE

SI-II MC-849/1

Time: 08:14 CDT, 18:13:14 GMT
6/11/73

CC Skylab, Houston. We're 1 minute from
LOS. Goldstone 13:34. 13:34.
SC 13:34. Roger, Bob.
SC Hey, Crip, what section of the book did
you say they talked about that solenoid vent port?
CC It was SWS System Schematics on 4.4.
That's just a drawing of it. I just wanted to make sure you
were familiar with the - their four valves, two series parallel.
SC Okay. Which ones can you say - show yield
1 and 3 open, huh?
CC That's affirm.
SC Are they the same leg or different legs?
CC They're parallel, if you look at the
thing on 4.4, it'll be obvious.
SC Okay.
SC Hey, Crip, are you still there?
CC Affirmative.
SC To do this cross pointer stuff on the
white light coronagraph, I've got to be as high as it can,
right?
CC I'll check that. We're probably going
to go LOS before I can do it, but I'm pretty sure you're correct,
Pete.
SC Okay.
PAO This is Skylab Control. That's all
through Guam for this revolution. We'll be up at Goldstone
in 15 minutes. Skylab currently on its 402nd revolution of
the Earth, and on this revolution the major activity aboard
the space station is operation of the Apollo telescope mount.
We expect to be getting ATM video during out stateside pass
this revolution. And we expect that video will be coming
in at 13 hours 34 minutes - 13 hours 34 minutes Greenwich
mean time. Our Change-of-Shift Press Briefing, with Flight
Director Neil Hutchinson, will begin 15 minutes early. That
briefing will begin at 8:30 central daylight time, in the
Johnson Space Center briefing room, room 135. Again, that's
8:30 a.m. for the Change-of-Shift Press Briefing with Flight
Director Neil Hutchinson.

END OF TAPE

SL-II MC-850/1

Time: 08:31 CDT, 18:13:31 GMT

6/11/73

PAO This is Skylab Control at 13 hours 32 minutes with Skylab coming up on a full stateside pass. Goldstone, Texas, Nila, and Bermuda covering this revolution. We also have a change-of-shift briefing scheduled to begin shortly in the JSC News Center briefing room. We expect that that briefing will begin before this stateside pass is completed. In which case, we'll record the conversations with the crew during the pass for playback following the press conference. And we're about 1 minute away now from the predicted acquisition time.

CC Skylab, Houston. We're AOS over the States for a good long pass for about 15 minutes.

SC Okay, Houston. Your TC down-link is coming to you and it's got H-Alpha 2. The SPT is standing by for the SUS pump. And the PLT is at your service (garble).

CC Roger, Pete. I'm still having trouble trying to read you. I understand everybody is standing by. And for your information we are executing that load in the ATMDC, so if you'd stay off the DAS for us, we'd appreciate it. And we'll see if we can go into these other procedures.

SC Okay. How do you read me now?

CC That's much better, much better.

SC There's H-Alpha 1 coming to you, Houston.

I hope you read all right.

CC That's great, Pete. Okay, very good. If we could get Paul to verify for us that he's removed the cap and he's ensured that the circuit breakers are closed on 202 for that solenoid vent valve, we'd appreciate it.

SC He's on his way.

SC That's verified, Houston.

CC Okay. We got you. We're reading you very good right now.

SC Okay, (garble).

CC (Garble)

CC Okay. And for Joe, we're standing by. You can go ahead and initiate your coolant loop procedure. And we're just going to monitor you on that.

SC It works now, (garble).

CC Thank you.

SC That's your whitelight coronagraph.

CC That's fantastic. Can even see that streamer coming over the east limb.

SC Yeah.

SC And I have a IN and OUT on the flare there, Houston; 650.

CC Roger. Understand. And for PJ, we're opening up all four valves. 1, 2, 3, and 4 at this time.

SL-II MC850/3

Time: 08:31 CDT, 18:13:31 GMT
6/11/73

you weren't aware of. Where I cleaned the solenoid vent port screen, I didn't put the cap back on. So it's been off for about a week and if you haven't had any leak in that time, I guess it's not leaking.

CC Okay; very good.

SC We got something else for the thermal guys to look at, Bob.

CC What's that?

SC In cleaning up, we kind of like to get rid of this portable fan if we can. And someone jostled it sometime yesterday or last night, so all night long the portable fan was not blowing on the heat exchanger screen. If it didn't make any difference, how about if we get rid of that portable fan, too? Think about that for a while, please.

CC Okay. EGIL's thinking about it. That's sneaky.

SC Yeah, we'd really like to clean this place up. We got hoses running through hatches and lines, and it's very bad. I don't like it. So anything you can do along that line, we'd appreciate.

CC Okay. We appreciate that, Pete. I guess that fan and your SUS 2 are running down to the water tank are your main problems right now. Is that correct?

CC I'm informed that fan was for your crew comfort, and if you want to take it off, that's - you may so do.

SC Roger.

END OF TAPE

SL-11 MC-851/1

Time: 08:40 CDT, 18:13:40 GMT

6/11/73

CC And Skylab, we're coming up over MILA
pass there and we should be doing a data recorder dump.

SC Hey, Houston; I think you guys have got
to put those horns in the anomaly passes, all of them on our
pads. If that ever happens out of station contact, we're going
to come over the hill minus about 300 frames of film.

CC Okay. We copy that.

PAO This is Skylab Control. We have about
10 minutes remaining in this stateside pass. However, the
Change-of-Shift Press Conference is ready to begin at this
time. We'll tape any remaining conversation with the crew
on this stateside pass for playback following our Change-of-
Shift Briefing. At this time we'll switch to the Johnson
Space Center briefing room for the Change-of-Shift Press
Conference.

ENF OF TAPE

SL-II MC-852/1

Time: 09:11 CDT, 18:14:11 GMT

6/11/73

PAO This is Skylab Control at 14 hours 12 minutes Greenwich mean time. During the Change-of-Shift Press Briefing, we accumulated a little over 6 minutes of taped conversation with the crew over the stateside pass and down over Ascension Island. During that conversation and during that period, we successfully conducted checks of the suit umbilical system loop in conjunction with the primary coolant loop. And also successfully completed checks of the orbital workshop vent valves, and we'll replay that tape for you now.

CC Skylab, Houston. We need to do another adjust on our REG ADJUST POT. If anybody's available for that, I'd appreciate it.

SC Go ahead.

CC Okay. What we want to do is take BUS 1 and BUS 2 on the REG ADJUST and go 5 amps toward the ATM on both. And after we do that, we want to adjust REG ADJUST 2 to equalize PCG TOTAL.

SC Okay.

CC We do copy that they're pretty close to being equal right now, though.

SC How does that look, Houston?

CC Stand by 1, Paul.

CC EGIL says they look beautiful.

SC Okay. And, Houston, the SUS pump is on PRIMARY for its 15-minute ride now.

CC Okay; we copy.

CC Okay. And, Joe, for your information, the primary loop is modulating properly, and it looks real good right now. We do want to go ahead and leave it on for 15 minutes, as called for.

SC Okay. Sounds good.

CC Skylab, Houston. We're about 30 seconds from LOS. And, Joe, what we'd like to do is just to go ahead and leave that pump on until Ascension, which is at 14:02. I'll give you a call there when to shut it down. And if for some reason we don't pick you up on void, you can go ahead and shut it down on your own. Also, we'll be doing a data recorder dump at Ascension.

SC Roger. (Garble) all your transmission, but I understand you're up, and you're going to dump the data recorder at Ascension.

CC That's affirmative. And we also wanted Joe to go ahead and leave that pump on, and - so we can watch him when he turns it off; so we'll like him to leave it on until our voice call at Ascension. If, for some reason, we didn't get your voice there, you can shut it down on your own.

SC Okay. He's putting on channel B ATM (garble). Maybe you can look at it. We had a - Pete was rolling the canister and he got a big glish in 28. You might listen to B when you get it from this period and see what he's got to say.

CC Okay.

SL-II MC-852/2

Time: 09:11 CDT, 18:14:11 GMT

6/11/73

SC Also, M509 activation is complete. We did not take any movies of it, Houston.

CC Okay. Thank you very much. I'm sure SL-III would appreciate it.

CC Skylab, Houston. We're AOS over Ascension for about 5 minutes. And we will be doing a data recorder dump.

SC Roger, Houston.

CC And, Joe, you can go ahead and turn off SUS 1 and take the fittings off.

SC Okay.

SC Hey, Houston.

CC Go ahead.

SC You were in the LOS, I guess, before you copied my last on M509. I was saying, "We did not activate 509 just out of the kindness of our hearts for Captain Bean and his motley bunch. We are not adverse to taking us for a little spins from these things, and you may see your way free to slip in there."

CC Okay. We so note. Paul, while I got you here, could I tell you something about your S009 operation a little bit later on?

SC Sure.

CC What we'd like to do at that time that you're scheduled to go set it, will you just open the detector package up, set the Beta angle in that we've given you, and turn the power switch off so that we'll just leave it open.

SC Okay. So despite all our preflight planning about taping it to the wall before 10 days and stowing it in the vault after 10 days, we'll just leave it in its frame open for the rest of the flight at the appropriate Beta angle, I guess.

CC That's what it looks like they're thinking about doing now. You'd be surprised how things can change in real time.

SC Oh, yes. I'm glad to see all is flexible. Okay.

SC Okay, Houston; SUS 1 is turned off and re-configured to its normal configuration.

CC Okay, Pete. Thank you. And, Skylab, for your information on that primary coolant loop, everything looks real good to us right now. And I guess the current thinking is that we definitely want to avoid the EVA mode. So, I guess right now we are trying to pursue getting the secondary coolant loop checked out. Also, we have completed that data recorder dump.

SC Okay.

CC Also, Skylab, we are changing our mode of operation on the recorders slightly. We're not going to be continuously recording. So anytime you want to put a voice

SL-II MC-852/3

Time: 09:11 CDT, 18:14:11 GMT

6/11/73

on, you will have to initiate it. A systems anomaly on.

SC You're not trying to fool with the
cassettes. You're not going to run the data recorder
continuously?

CC Okay, Pete, basically - you're sort of
unreadable then right now. I'll tell you - we're going LOS
here in about 15 seconds. We'll see you at Carnarvon at 14:32.

SC Bye.

CC Bye.

PAO That completes our replay of accumulated
tape conversation through the continental U.S. and Ascension
pass. I only have about 13 minutes remaining before we once
again acquire the space - spacecraft at Carnarvon. Now in
the 403rd revolution and coming up on stateside acquisition
at Goldstone we'll be hearing the crew again in the midst of
an EREP pass. This will be Earth Resources Experiment Package
pass number 8. And, we just received a report from the EREP
officer who says everything is ready to go. It looks very good.
The weather is cooperating throughout most of the track and all
of the instruments are configured and ready for that EREP pass.
Recapping some of the conversation from the previous passes,
the check, as you heard on the primary coolant loop with the
SUS loop activated, the suit umbilical system loop checked out
okay. A procedure apparently developed that allows the crew
to bring on the suit coolant loop without causing the temperature
control valve to swing full open or into the maximum cold posi-
tion. Also, you heard the comment that a procedure is being
worked out to further troubleshoot the secondary coolant loop,
which continues to operate, but in a cooler-than-desired mode.
The temperature on that secondary loop continues to run right
around 40 degrees Fahrenheit. The primary loop continues to
hold in very close to the desired 47 degrees coolant temperature.
At 14 hours 21 minutes Greenwich mean time, this is Skylab
Control.

END OF TAPE

SL-II MC-953/1

Time: 09:30 CDT, 18:14:30 GMT

6/11/73

PAO This is Skylab Control, and we're about to pick up radio communication with Skylab through the Carnarvon, Australia, tracking station on the 403rd revolution. And we'll stand by for that communications with the crew. During the previous pass over Vanguard, and at the end of the previous stateside pass, the troubleshooting as we mentioned with the primary coolant loop, was conducted successfully. And the essential outcome of that test with the primary coolant loop was to verify that the configuration using the suit umbilical system employing it through the heat exchanger will be acceptable. This is an acceptable EVA mode. The coolant loop has actually two heat exchangers built into it. The second normally not used, except for peak heatload conditions during an EVA when the suit umbilical systems are dumping the accumulated heat from metabolic activities of the astronauts into the coolant system. However, experiments - experience has shown that a single heat exchanger will be adequate, even for EVAs. The desire not to use the second heat exchanger centers around the belief that this heat exchanger is a source of contamination into the primary coolant loop. The contamination then getting into the temperature control valve and causing the valve to stick. The tests we've run today tend to verify this hypothesis, and that is the basis for CAP COMM's comment to the crew at the end of the last pass that we will definitely want to avoid the EVA mode. The EVA mode is a mode that flows coolant through both heat exchangers by avoiding that mode during an EVA and using only the one heat exchanger, which appears to be more than adequate. We feel we can avoid the problem of the contamination in the primary coolant loop and avoid any further problems with the valves hanging up in this loop. We show that we've acquired signal at Carnarvon. This will be a 9 minute 40 second pass. We'll stand by for the call to the crew.

CC Skylab, Houston. We're AOS over Carnarvon for 9 minutes.

CC Skylab, if you're interested, I could give you a rundown on what the cloud coverage is going to be on your EREP pass coming up.

SC Go ahead.

CC Roger. Unfortunately, we got a - or fortunately, depending on what kind of data you're after, we've got a pretty cloudy day out all across your pass. Coming up at Washington to Idaho, it's going to be scattered to broken, and from Idaho to Colorado it's broken to overcast. And it starts clearing up somewhat there and breaks out fairly clear over the Oklahoma panhandle. Then it starts to sock

SL-II MC-853/2

Time: 09:30 CDT, 18:14:30 GMT
6/11/73

back in and by the time you get to Texas, we're basically overcast here, and that's going to be the same condition coming all across the Gulf, Caribbean, and northern South America. Central South America is fairly clear though.

SC

Okay.

CC

Also, I wasn't making myself very clear awhile ago on talking about the recorders. We are not continuously running the data recorders, so if you do see some system anomaly that you think we ought to get data on, would you go ahead and initiate the recorders for us, please?

SC

Roger. Understand. What I didn't understand though, Crip, was what you said before that about the SUS pumps. You said you didn't want to get into an EVA, so you weren't going to do what?

CC

All I was saying there was that we did not want, apparently, to get back to that EVA mode on the primary coolant loop because we believe that is what caused our initial problem with it. And that will not be coming up, of course, until we do get down to the EVA, and we'll figure out exactly what we want to do there.

SC

But you probably don't want to use SUS 1 during the EVA. Is that right?

CC

No, that is not necessarily true.

SC

Okay. Well, let us know.

CC

Okay. We would probably be operating in the bypass mode rather than EVA.

SC

Crip, CDR.

CC

Go, CDR.

SC

Okay. I've done the sensitometry advance, besides 40 frames and about seven more on there. I had about three half lights: 3, 5, and 6. I had 3, 4, 5, and 6. Four went out; 3, 5, and 6 stayed on. I have marked the film, checked it, and it is, in fact, moving. I've done all those good things, and in the process, shot up three single frames and then after ascertaining that everything's moving, I have sequenced four more through, so I've actually used 47 frames on the 6th magazine, and I still have half lights 5 and 6. And I suspect it's the same as last time, and they'll eventually disappear.

CC

Okay. We agree with that, Pete, and we consider it's good. Go ahead and press as is.

END OF TAPE

SL-II MC-854/1

Time: 09:38 CDT, 18:14:38 GMT
6/11/73

CC We agree with that, Pete, and we consider
it's good. Go ahead and press as is.

CC Skylab, Houston. We're 1 minute from
LOS. We'll see you again at Guam at 14:46; 14:46.

SC Okay. (garble) maneuver time. Can you
take a quick look at it and verify it?

CC We have verified it. It's good.

SC Okay.

CC Skylab, Houston. We're AOS once more
over Guam at - for 9 minutes.

END OF TAPE

SL-II MC-855/1

Time: 09:46 CDT, 18:14:46 GMT
6/11/73

CC PLT, Houston. Do you have a moment to
talk about your VTS stuff?

SC Talk about what?

CC About your VTS targets. That weather
that they had and that they removed your initial site co -
moved south, and they would like you to go back to your
original pad.

SC Okay. I'll cross out the crossouts, huh?

CC Cross out the crossouts. That's affirm-
ative.

SC We're getting used to that. All right.
We got it.

CC Skylab, Houston. We're 1 minute from
LCS. We'll have you again at Goldstone at 15:11; 1511.
And we copy you are in - on route to Z-LV.

SC Yeah, it looks like it here, anyway.

PAO This is Skylab Control. As Skylab went
over the horizon at Guam, we could see from the telemetry
data on the ground that the vehicle was maneuvering into
the proper attitude for the ERF7 pass coming up over the
United States, down across the Gulf of Mexico, and out on
across South America and Brazil. They'll be in the Z-local
vertical, which boresights the sensors at the groundtrack
beneath them. And we have 13 minutes 40 seconds now until we
reacquire at Goldstone. At 14 hours 57 minutes, this is
Skylab Control.

END OF TAPE

SL-II MC-856/1
Time: 10:10 CDT, 18:15:10 GMT
6/11/73

PAO This is Skylab Control at 15 hours 10 minutes. We'll be hearing from the crew shortly, coming up over the Goldstone tracking station, at which time they should be in an EREP pass. Pass number 8, which - -
SC - - bunch of it is south of here.
PAO And we're picking up the VOX communications from the crew now.
CC Got you in voice contact, guys.
SC Okay.
SC Hoo hav. How're you reading the CDR VOX?
CC Loud and clear.
SC Okay. PREOPERATE configuration has been verified and we're ready to go.
CC Copy.
SC I got a note for the EREP training people, and the followon crews, is that the gimbal drift in the VTS sphere is such that it tends to drift up and to the left.
SC How's the Houston weather, Crip?
CC Not too hot. A little bit rainy this morning.
SC Oh.
SC It's not supposed to do that in the summertime.
CC Right.
SC It looks like quite a bit open along your track (garble).
SC Okay.
SC What's the temp?
CC Oh, about 80 degrees.
SC Coast in a minute.
SC Okay, 15 seconds. EREP start.
SC Five, 4, 3, 2, 1, MARK, EREP START. 94,
MODE MANUAL.
SC SCAT's ON, the RAD's ON. MARK, ETC to
AUTO. MARK, S190 to AUTO.
SC Oh, here's a nice mountain.
SC 92 to MODE READY.
SC Looks like Mount Hood.
SC Maybe not.
SC SCAT, STANDBY; RAD, STANDBY; MODE IN-TRACT
CONTIGUOUS; PITCH is 0.
SC Man, is it clear around those mountains today. Hoo hav.
SC And 92, MODE CHECK. RAD's ON; SCAT's ON.
SC And I need an AUTO CAL on my MARK, please.
SC Okay.
SC MARK, AUTO CAL. ALTIMETER to STANDBY.
POLARITY to 2 and 15:05.
SC For simulator people information, it takes 3-1/2 seconds for the READY light to go out on S191 when you hit AUTO CAL.
SC And, also, I have on S190, the 5 and 6 malf flights. But I believe everything's running all right.

END OF TAPE

SL-II MC-857/1

Time: 10:15 CDT, 18:15:15 GMT
6/11/73

SC POLARIZATION is 2.
SC Hey, Crip, I had to do a 192 alignment
tweak before the run, mainly because I did one after the
run yesterday. The details are on B channel from yesterday
and on the tape from today.
CC Copy.
SC ARC INTERVALOMETER to A. ETC to STANDBY.
STANDBY, ETC to go back to AUTO.
SC ETC, AUTO.
SC Also, for information, it's hard looking
out at 45 degrees forward. You look through a lot of atmos-
phere. Targets in detail.
SC POLARIZATION, 4. I got a READY light on
191; Bravo 7 is 31 percent.
SC Seventeen shutter speed to MEDIUM.
SC 92 to READY.
SC And I got Fort Tub.
SC MARK. 17:50, POLARIZATION at 3.
SC SCAT, STANDBY; RAD, STANDBY; 92, CHECK.
SC ALTIMETER is ON.
SC IN-TRACK NONCONTINUOUS, POLARIZATION 5.
SC Okay, Houston. Got the following sites
back there. Got (garble) reservoir 350. I got 351; I got
352; I got 353; and I got 356.
CC Copy.
SC F190 READY light is out.
SC ALTIMETER to STANDBY.
SC SCAT's ON. RAD's ON.
SC Okay. For special 01, all you're getting
is clouds, so far, instead of the Gulf. - -
SC (Garble) the ALTIMETER. STANDBY on 190.
SC Telemeter my intervalometer is 18 and check
the frames are 81.

END OF TAPE

SL-II MC-858/1

Time: 10:21 CDT, 18:15:21 GMT

6/11/73

SC (Garble) maneuver out.
SC 'uh?
SC 1540.
SC (Garble) 190 power off and back on again
to get rid of those - (Garble)
SC Well, I - I haven't started to run it yet.
It starts to run at 23:56 here. (Garble) enough film on there.
SC You still there, Houston?
CC Affirm. - -
SC For whatever reason, we seem to have a -
consistently in the past on these VTS sites, we've been get-
ting to them 2 to 3 seconds before the pad says we will.
CC Okay. We've still got about 4 more minutes.
SC 90 is in MODE AUTO. ETC is STANDBY, Joe.
SC (Garble)
SC Okay. And the SCAT's in STANDBY and RAD
to STANDBY; 93A is ON; MODE TRACK, CONTIGUOUS; PITCH, 30; PGL-
ARIZATION is 4. Okay, after I got all the film wound on
those cameras, I don't have any malf lights now, Houston. I
think you just about float in there when they're first wound on.
CC Copy.
SC MARK. Intervalometer to 8. 92 going to
MODE READY on my mark.
SC MARK. 92 to MODE READY. ETC to AUTO, Joe.
CC One minute until LOS. Vanguard at 37.
Copy. Your maneuver time looks good for going out.
SC Okay.
SC What you got down there?
SC Looking at down there?
SC MODE CHECK on 92.
PAO This is Skylab Control with loss of signal
now through Mila. And Skylab will continue on down across South
America, out over Brazil, and continue taking the EREP data until
about 200 miles south of Sao Paulo, Brazil. CAP COMM, Bob Crippen,
advised the crew before starting this pass that there would be
considerable cloud cover, ranging from solid to broken along the
track. And the crew confirmed that. Paul Weitz, I believe it was,
mentioned that they were getting an awful lot of - an awful lot of
clouds. One of the alternate targets to be gotten through the
visual tracking system due to heavy cloud cover over the primary
target near Oklahoma City was thunderstorm buildup where severe
weather is shown in the Dallas area. The total EREP 8 track was
about 7700 miles, or will be about 7700 miles on completion. And
among the targets are the Cascade Mountains, also forest inventory
in Colorado, and the storm conditions in the Dallas area. They also
hope to collect data on sea surface and wind conditions in the Gulf
of Mexico, as well as information to be used in crop inventories
in Columbia and resource studies in Brazil. And, hopefully, the
weather will be clearing as they move down across Brazil. We have

SL-II MC-858/2

Time: 10:21 CDT, 18:15:21 GMT

6/11/73

about 6 minutes until regaining radio contact through the tracking ship, Vanguard, off the coast of South America. At 15 hours 31 minutes, this is Skylab Control.

END OF TAPE

SL-II MC859/1

Time: 10:35 CDT, 18:15:35 GMT
6/11/73

PAO This is Skylab Control. One minute away from acquisition through the tracking ship, Vanguard. And we expect to get the conclusion of EREP pass number 8 during this period of acquisition.

CC Skylab, Houston. We're AOS over the Vanguard for the next 7 minutes.

SC Roger, Houston.

SC MARK. 38:02; POLARIZATION, 1. MODE, READY on 192. MODE, AUTO on 190; EPC to AUTO, Joe.

SC J., would you check the master alarm?

SC Okay, it's probably starting.

SC CMG set, okay.

SC The thruster's inhibited, or enabled? -

SC Enabled, okay?

SC 53 and it's SCAT to STANDBY. 55 and RAD to STANDBY; 39:01 and S192 to STANDBY; 39:07, READY out, and it's out, 39:13. MARK. ETC, STANDBY; VTS, AUTO CAL; and 39:25 in a MODE, MANUAL on 194; MODE, MANUAL, 31; the SCAT's OFF; RAD's OFF; standing by for 15:40 there, my boy, for the start of the SI maneuver. Okay, you got it.

SC Saturated in Y, that what it, huh?

SC Uh, huh.

SC Very good.

SC And we commenced that SI maneuver on time.

SC 40:25, 94 is OFF. MARK. 41:00 to STANDBY. Stand by for 41:53 for a READY on S191.

SC Yeah. Got a READY on - on a 91 and MARK EREP stop and we got - there's a perfect pass for you. How about that? Okay, Houston, you still with us.

CC That's affiro. That's a very nice EREP pass.

SC Okay, we're going off VOX and going off A RECORD, back to B RECORD.

CC Pete, did you give us B7?

SC Okay, Crip. That's 30. Right on the money. Copy.

CC For your info, over the states on the next pass, we're going to be troubleshooting the secondary coolant loop. We'll give you the details on it there.

CC Skylab, Houston. We're 1 minute from LOS. We'll see you again at Goldstone at 16:48, 1648. We will be doing a data recorder dump at that point. And regarding that troubleshooting procedure for the secondary coolant loop, that's primarily a ground-initiated procedure. We'll need you for a couple of steps and we'll tell you about it.

PAO This is Skylab Control, at 15 hours 45 minutes. Out of range now of the Vanguard tracking ship.

SL-II MC859/2

Time: 10:35 CDT, 18:15:35 GMT

6/11/73

And about 1 hour and 2 minutes away from reacquiring at Goldstone, California. During that stateside pass, as you heard CAP COM, Bob Crippen, advise the crew, we'll be doing some troubleshooting on the secondary coolant loop. The primary loop now apparently operating normally. And the procedure that will be used with the secondary loop similar to that followed with the primary loop when it was reactivated. That is, to turn on both pumps that flow coolant through the loop; the loop currently operating with a single pump. It's hoped that when the second pump is turned on, the sticky valve that is controlling the flow in the loop and mixing the hot and cold coolant to maintain the desired temperature, will unstick itself as happened in the primary loop and the valve will begin controlling at the desired temperature. The desired temperature being around 47 degrees Fahrenheit. And that is the temperature at which the primary loop has been cool - operating since the same procedure was used or similar procedure was used on that loop to free up the sticky temperature control valve. If the temperature begins to drop on the secondary coolant loop as the flow is increased, the loop will be shut down and allowed to warm up before the procedure is - is repeated. The feeling is that the secondary loop is operating at a - at an equilibrium which is arrived at by adding a heat sources, namely the liquid cool garments - liquid cooling garments, from the EVA suits used in con - used by the crew in conjunction with the EVA. These loops are connected to the liquid cooling garment. The garments then are draped over a water tank in the area of the dome where a fair amount of heat is picked up on the sunside of the vehicle. The side of heat flowing into the secondary loop is allowing it to maintain an equilibrium temperature around 40 degrees. This temperature as felt is - is a status of equilibrium rather than a - a temperature that's being controlled by the valve itself. Consequently when the flow is increased we could see a - a fairly rapid drop in temperature on that loop if the valve does not begin to control properly. At which point as mentioned the loop will be shut down. The primary loop would continue to be the - the active coolant loop; and as the secondary loop warmed up, the procedure of doubling up on pumps to increase the flow and hopefully free that valve would be tried again. At 15 hours 49 minutes, this is Skylab Control.

END OF TAPE

SL-11 MC-860/1

Time: 11:45 CDT, 18:16:45 GMT

6/11/73

PAO This is Skylab Control about 1 minute 30 seconds from reacquiring Skylab through Goldstone, California. The spacecraft now in the 405th revolution of Earth. And this will be our last stateside pass for today. The EREP officer reports that the EREP Pass from the previous revolution appeared to be highly successful, this was a report that was confirmed by the crew. A little later on this afternoon we will be getting a satellite weather picture of the area at the time the pass was made and from that we'll be able to confirm the coverage and what areas that were in fact clear and which were cloud covered. But the preliminary indication is that all equipment worked properly and that we got a lot of good data on that EREP Pass. During this stateside pass we will be troubleshooting the secondary coolant loop, airlock module secondary coolant loop. The procedure will be similar to that followed in remedying the problem on the primary coolant loop. We'll be commanding both pumps on line in an attempt to free temperature control valve that appears to be hung up by some contamination.

CC We're AOS over Goldstone for about the next 13 minutes. 13 minutes.

SC Roger, Houston.

CC Roger. And we're going into this troubleshooting procedure on the secondary coolant loop and the first step that we're going to be doing involves just turning on the secondary pump and watching it for a while.

SC Okay.

CC Skylab, after about 5 minutes, after we've turned this pump on, I'll probably be requiring somebody to go up into the airlock module to turn off SUS 2 and to insure that one of the caution and warning parameters is indicated. Looking at the schedule, Joe's probably the most likely guy, if he can get away. I'll call in.

CC We're currently showing a flow rate of about 214 or 15 pounds per hour on the secondary coolant loop. When the additional pump is brought on line, we'll expect that flow rate to increase something over 400 pounds per hour. And it has just been commanded on, the pressure now - or the flow rate, rather, 404 pounds per hour, just about double what we've seen previously, indicating that the second pump is on line. Skylab, Houston. We are doing a scheduled data recorder dump at this site.

PAO We'll be watching the temperature on that secondary loop for any significant decrease. The plan is, if the - if the loop temperature does begin to drop, to turn the loop off, let it warm up and then some time later to - -

SL-II MC-860/2

Time: 11:45 CDT, 18:16:45 GMT
6/11/73

CC Jim, we're not sure whether you have your secondary coolant temp low enabled at this time, on your caution and warning. If you do, it may go off; be no problem. We'll try to warn you before it does.

SC Right.

PAO The secondary loop temperature does drop, to an unacceptable level, and we have to turn it off, the procedure then would be to let the loop warm up and next time to hit it with both pumps simultaneously. In an effort to shake loose that sticky valve. And it does appear that the loop temperature is dropping, down now to about 39.3 degrees. Previously it was up to about 40 degrees Fahrenheit.

PAO Secondary loop temperature down now to 38.6 degrees.

PAO EGIL, the environmental systems engineer, recommends that we remove the SUS loop from the secondary loop. They plan to shut down the secondary loop - -

END OF TAPE

SL-II MC861/1

Time: 11:56 CDT 13:16:56 GMT
6/11/73

PAO - shut down the secondary loop by ground command and let it warm up. The temperature is continuing to drop down to about 38.6 degrees at the present time.

CC Skylab, Houston. We have got the secondary coolant loop secured at this time, and we would like for you to turn off SUS 2. We are not sure whether you got that on on panel 217 or 323. Would you turn the pump off?

CC And for your information, that little procedure we went through did not cause the valve pump to modulate, so we still want to leave the SUS 2 hoses connected because we're still troubleshooting it.

SC Okay, but the SUS 2 pump is off now, Houston.

CC That's affirm. Thank you very much. We copy it's off here.

CC Skylab, Houston. We're 1 minute from LOS. We'll see you again over the Vanguard at 17:14, 1714. We will be doing a data recorder dump at that site. Plus we copied that the TACS is still enabled; at your convenience you may inhibit it.

PAO This is Skylab Control. Skylab now out of range of the Texas tracking station. We'll be coming up on the tracking ship Vanguard in about 12-1/2 minutes. And again the procedure attempt to free the sticky temperature control valve in the secondary coolant loop was not successful. That procedure involved turning on the second pump on the line, doubling the flow rate in an attempt to shock the valve into freeing and controlling the temperature at the desired level of 47 degrees. The added flow rate apparently did not free the valve and the temperature began to drop as the rate of flowing coolants through the radiators increased as the function of having an additional pump on the line. The next step in the troubleshooting operations with the secondary coolant loop will be to let the loop warm up, that'll probably be accomplished within 24 hours and could be - could be accomplished on this shift or during the crew's wake period before putting the crew to bed tonight. And if so, the - the next step in the procedure will be to, in effect, double the shock to the temperature control valves by hitting it with both pumps simultaneously, in effect going from zero flow to something in excess of 400 pounds per hour as opposed to the previous procedure, which went from 200 pounds per hour, to about 400. It's felt that the added shock of hitting it with the 400 pounds per hour flow rate, going from zero to 400 pounds, may free the hung-up valve and allow it to begin controlling at the desired temperature level. At 17 hours 3 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-862/1

Time: 12:12 CDT, 18:17:12 GMT
6/11/73

PAO This is Skylab Control. We're about to acquire through the tracking ship Vanguard. And we'll have acquisition through Vanguard for about 7-1/2 minutes. The EREP officer has gotten from the weather people a satellite picture of the Caribbean and South America areas that were covered in this morning's EREP pass. And we'll put that satellite picture here on the monitors so that you can get a look at it. You'll notice that the area across the Caribbean on the groundtrack was very clear and some light cirrus-type cover over northern South America and Columbia and then virtually clear over the entire Amazon basin. And later on today we expect to get a similar map for - for North America to allow us to do an evaluation as to how many of the predicted, or task sites were, in fact, covered totally or in part. We have acquisition of signal now. We'll stand by for the call to the crew.

CC Skylab, Houston. We're AOS over Vanguard for about the next 10 minutes. And, Skylab, we will be doing a data recorder dump at this pass.

SC Say, Houston. I want you to verify something for me, please?

CC Go ahead, Pete.

SC Would you verify that the flight T027/S073 - the S073 big package and flight tripod were - fit checked in the flight article in the - antisolar airlock, okay?

CC Okay. We'll check it.

SC The reason I asked is because we have the flight tripod in the solar airlock supporting the parasol T027 can, and the tripod that we brought up which we put along side the other one is identical to it, as best we can tell. Does not check on S073 nor does it check on places for it and we're having to do a little juggling and right now we're going to finish prep and trade tripods, but I'm not convinced that the other tripod's going to fit either. So before we go to that trouble on - if you can verify it - verify the paperwork, we'll know that by swapping tripods, at least we're starting in the right direction. We may have to jury-rig the other tripod under the parasol.

CC Okay, Pete. I'm pretty sure I did that one myself, but we'll get it checked.

CC And, Skylab; Houston. We are going to be sending some commands to the computer to update the timers, so if you'll stay off the DAS for us, please?

CC CDR, Houston. You got a moment to talk about the S052 - the cam - the fact that the camera doesn't work and our (garble) people would like to know if you'll do them a favor in giving them a little bit of extra TV today?

SL-II MC-862/2

Time: 12:12 CDT, 18:17:12 GMT

6/11/73

SC Okay. Sure. What do you want?
CC Okay. On your next pass coming up, they would like to give in building block 2 about 15 seconds of S052 TV on the VTR.

SC Okay. TV 2, 15 seconds of TV on the VTR.
CC Okay. They also were requesting that same thing two other times today, and one is at the 21:18 pass where you got another building block 2, where they'd like the same thing there.

SC Tell you what. How - how about cleaning up from PTM. About half of the rest of that's coming up when I get up to the (garble).

CC Be glad to do that. Thank you.
CC Skylab, Houston. We have checked and it is affirmative that that tripod was checked with the flight T027 unit in both SALs at the Cape.

SC Okay. Well, we'll try the flight one in the flight S073 and see what happens. Maybe the other one's wrong. But it's not obvious to us, it's not identical to that other tripod.

CC Okay. And we're going LOS here. We'll see you again at Hawaii at 18:22.

PAO This is Skylab Control. Out of range now of the tracking ship Vanguard. And 1 hour away from acquisition through the Hawaiian tracking station. During that pass over the Vanguard, Pete Conrad advised that the tripod used to provide additional rigidity to the T027 experiment and S073 experiments, which attach to the scientific airlock appeared not to fit. This tripod is the, according to Conrad, the unit that was flown up to be used in conjunction with the parasol deployment which is also deployed from a canister identical to those used for the scientific airlock experiments. The same tripod used for both containers, and the crew elected to use the primary, or the one that had been flown aboard the workshop - the tripod flown aboard the workshop to support the parasol package and on attempting to use the backup item that had been flown aboard, which for all intents and purposes is identical to the flight original item. Found that the tripod fit. Now we don't know whether that fit failure was at the attach point to the experiment canister or to the attach points at the floor. And I expect that will be clarified with the crew the next time we have a station acquisition. The tripod is not a functional piece of equipment for the experiment. The experiment would work perfectly well without it, but the tripod does provide some additional rigidity and takes the support load off the scientific airlock attach point, so that you don't have a fairly long canister poking out into the

SI-II MC-862/3

Time: 12:12 CDT, 18:17:12 GMT
6/11/73

workshop supported only at the attach point. And if the canister were bumped or something like this, they would want the additional rigidity to avoid any damage to the interface point with the scientific airlock. Fifty eight minutes now till acquisition at Hawaii, and we are going to replay the television of the EVA to repair the workshop solar panel during this long period where we have no acquisition. At 17 hours 24 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC863/1

Time: 13:20 CDT, 18:18:20 GMT

6/11/73

PAO This is Skylab Control, at 18 hours 21 minutes coming up on the Hawaiian Island tracking station. Hawaii and Vanguard the only two station that we hit on this revolution; the 405th and going on into the 406th revolution. And we're about a minute away from acquisition. We'll be in contact through Hawaii for a very short pass, only about 3 minutes. And it'll be about 25 minutes from the time we lose signal through Hawaii until we pick up Vanguard.

PAO This afternoon the crew's major activities are operation of the Apollo telescope mount experiments, and medical experiments M092 and M171. Commander, Pete Conrad, responsible for the ATM duties and science pilot, Joe Kerwin, and pilot, Paul Weitz, handling the M092, M171 series, the lower body negative pressure in the metabolic activity, metabolic analysis experiment.

CC Skylab, Houston. We're AOS over Hawaii for about 3 minutes.

SC Okay, Crip. I got a question on my T027 pad.

CC Go.

SC Burn OA program I got a - the program start. It's 18:52/19:06. Does that mean you want to start it once and stop and start it over again, or does that mean I can start it anytime in that interval?

CC Anytime in that interval.

SC Hey, you guys are easy.

CC Yeah, tell us the - tell us the story on the big tripod mystery.

SC Well, I tell you, the one out of the trainer which we brought up to use with the parasol doesn't - the head is the length - base. On the top of the length goes the base, then on the base goes the head with the adjustable screws. You with me?

CC Yeah.

SC Well, that head is bolted to the base differently. It's about 4 inches further to the right than is the Flight one. And it must have something to do with that 6 degrees or so misclocking of the floor grid in the trainer. So what we've done is we've only taken the spacecraft apart a little bit to find bolts with nuts on them. And it is now bolted to the floor. We may never get it up, but it's there to stay - it's there now.

CC Okay, I guess I'm still not sure exactly what configuration when you say it's bolted to the floor. You have the trainer 1 under the parasol. Is that correct?

SC Negative.

SL-11 MC863/2

Time: 13:20 CDT, 18:18:20 GMT

6/11/73

CC You got - -
SC - - The trainer went under T027. We didn't drain them out because it became obvious that we're only flopping our troubles from one airlock to the other.

CC Okay. And the problem apparently is in the way the thing is bolted, but it's - The way you have it now you feel it offers adequate support for T027, right?

SC Oh, yeah. It may tear up the grids more but it - it won't let T027 move.

CC Okay, what you had to do was just shift it off of the normal holes to get it in the right position.

SC Yeah, but that's not adjust, because we had to get some of the lock nuts-type nuts and bolts.

CC Okay.

SC We had all the activation gear. We got a lot of bolts, but no nuts. So we had to take some out of the grid.

CC Okay, I wasn't implying to mean the amount of work you did. You didn't take it apart too much, did you?

CC Hey, we're going to go LOS here in about 15 seconds. We'll see you again over the Vanguard at 18:50, and we will be doing a data recorder dump at that pass.

SC Okay.

PAO This is Skylab Control, 22-1/2 minutes away from the tracking ship Vanguard and our next acquisition with Skylab. From the crew's description it sounds as if they had remedied their tripod problem simply by relocating the attach points, instead of attaching the base of the tripod through the planned holes, moving it over and attaching it through the grid, using bolts and washers that they were able to come up with from the - from the workshop. And it wasn't too clear whether they had gotten those - those nuts. I think we said we heard Paul Weitz describe having adequate number of bolts but having to salvage some nuts from the - from the workshop to attach the tripod to the - to the gridwork of the floor. And apparently he feels that it is secure enough to provide good support to the T027 canister. At 18 hours 28 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-864/1

Time: 13:48 CDT, 18:18:48 GMT
6/11/73

PAO This is Skylab Control. We're 1 minute now from acquiring Skylab through the tracking ship, Vanguard. And that'll be our, one of our two stations acquiring the spacecraft on this revolution, the other being Hawaii. After we lose contact through Vanguard, that'll be about an hour before we pick up again through the Hawaiian station.

CC Skylab, Houston. We're AOS over the Vanguard for the next 10 (garble).

SC And if you're trying to call, Houston, you're unreadable.

CC Roger. We're having a little site problems right now, Pete.

CC Skylab, Houston. We'll try once more here. We're got LOS - correction AOS, for about the next 7 minutes.

SC Okay. Now we got you.

CC Okay. And CDR, do you have a moment to talk a little bit about your next ATM rev?

SC Yeah, go ahead.

CC Okay. I don't know whether you caught it or not, but we've got an audit step scheduled for 82B and that normally is called out for auto sequence switch to hold the end of the pass, and since we aren't repeating that one, what we'll need you to do there is just to stop it.

SC Yeah, where are you?

CC I'm sorry. It's on your next rev.

CC The next - -

SC Building block 23?

CC That's affirm. Building block 23 - -

SC Okay. Don't call it to hold just terminate?

CC That's affirm.

SC Okay. Now, tell me when you want the white light coronagraph on TV. I've already given you that this pass.

CC Okay. The next one we want is actually on, I believe, on Joe's rev, if you could put it down on the schedule, I'd appreciate it. It's for the rev around 01:55, in building block 1, we want - want him to give us the same thing again, 15 seconds of white light coronagraph TV on the VTR.

SC Okay.

CC And if Paul is still listening, that tripod you guys took up in the command module was supposed to be a backup unit from Huntington Beach, and we're trying to check into it to find out why it - why it was off then.

SC Yeah, the top is offset from the (garble).

CC CDR, while I've got you here, I guess there's a question that we're pondering down here, that we'd

SL-II MC-864/2

Time: 13:48 CDT, 18:18:48 GMT
6/11/73

like to get your opinion on. We have discovered on S056, that we really don't need to turn off the aluminum and beryllium high voltage every SAA, nor at night when you leave the thing unattended. We're considering sending you up a teleprinter pad that which basically eliminates that procedure, primarily for your convenience. And like to know your opinion on it.

SC

Hooray!

CC

Okay. We'll zap it up to you.

CC

Skylab, Houston. We're about 30 seconds from LOS. We'll see you again at 19:58. And, Paul, if you have an opportunity, we'd appreciate it if you could tell us what the shaft and trunnion angles are on 27 right now?

SC

They appear to not have moved. The shaft is 16, the trunnion is zero.

CC

Roger. And copy, shaft, 16; trunnion zero.

PAO

This is Skylab Control. Loss of signal now through Vanguard and it'll be almost an hour, 57 minutes to be exact, before we reacquire at the Hawaiian tracking station. Spacecraft now in it's 406th revolution. At 19 hours, this is Skylab Control.

END OF TAPE

SL-II MC-865/2

Time: 14:55 CDT, 18:19:55 GMT

6/11/73

PAO This is Skylab Control; 19 hours 55 minutes Greenwich mean time. On mission day 18, revolution 406. Skylab space station at this time is orbiting the Earth at 241.7 nautical miles at the high point and 230 nautical miles at the low point. It takes roughly 1 hour and 33 minutes to circle the Earth. The space station is traveling at 25,102 feet per second. We're approximately a minute away from acquisition at the Hawaii tracking site. And we will be in communication with the Skylab for about 9-1/2 minutes. We'll stand by for the air to ground.

SC

Okay. Are you there, Houston?

CC

Skylab, Houston. That's affirmative;

we're here for about 8 minutes.

SC

Okay. I knew you had a reason other than passing interest for asking me about that S073 shaft and trunnion angle.

CC

Roger.

SC

I think it was early in the program, Crip, right after you called me, I went up and checked Paul's by mistake; and corrected it on the spot. So that the majority of the exposures in that sequence are per the book then.

CC

Very good. We appreciate it.

SC

Okay.

END OF TAPE

SL-II MC-866/1

Time: 15:00 CDT, 18:20:00 MT
6/11/73

CC CDR, Houston. We indicate that your
H-Alpha is in two frames per minute. It should be one at
this time, sir.

SC Okay.

SC (garble) last pass.

CC Roger.

CC Skylab, Houston. We're about 30 seconds
from LOS. We'll see you again over the Vanguard at 20:29,
and we will be doing a data recorder dump at that pass.

SC Roger.

PAO Skylab space station has moved out of range
of the Hawaii tracking station. During this pass, EGIL,
the environmental officer, reported to the flight - flight
director here in Mission Control, "we look good at Hawaii,"
meaning his systems looked very good on the Skylab space
station. We will next acquire in 20 minutes over the Vanguard
tracking site. At 20 hours 8 minutes Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-II MC-867/1

Time: 15:26 CDT, 18:20:26 GMT
6/11/73

PAO This is Skylab Control, Houston. At 20 hours 26 minutes Greenwich mean time. About 2 minutes from acquisition of signal at the Vanguard tracking ship. We just had an indication here in mission control center that we indeed will be acquiring at Vanguard the Warbler went off with its peculiar sound. At this time, according to the Flight Plan, the commander Charles Pete Conrad, is at the Apollo Telescope Mount station, undertaking some sun watching experiments, while the Science Pilot Joseph Kerwin and the Pilot Paul Weitz, are in a an M131 human vestibular function experiment. In this particular experiment today, astronaut Kerwin is the subject and Paul Weitz is the observer. Purpose of that human vestibular function is to determine if there are, are significant affects produced by weightlessness, on vestibular functions. Using a rotating litter chair and other accessories. We are about 40 seconds from acquisition of signal, we'll stand by for radio communication with the crew.

CC Skylab, Houston. We're AOS over the Vanguard for the 9 minutes.

SC Roger, Houston.

CC Roger. And if possible we'd like to get somebody to secure the experiment 1 and 2 tape recorders until they're required for 92, to solve a little dump problem for us.

SC Okay.

CC We note that they're secured. Thank you.

CC Skylab, Houston. We are doing a data recorder dump this pass.

SC Okay.

END OF TAPE

SL-868/1

Time: 15:32 CDT, 18:20:32 GMT
6/11/73

CC Skylab, Houston, we're one minute to LOS.
We're having that long silence. See you again at Hawaii at 21:36,
21:36.

CDR Bye.

CC Bye.

PAO The Skylab space station has moved out of
range of the Vanguard tracking site. We will acquire again
in about an hour at the Hawaii site. At 20 hours 37 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-869/1

Time: 16:34 CDT 18:21:34 GMT

6/11/73

PAO This is Skylab Control, Houston. At 21 hours 34 minutes Greenwich mean time, the Skylab space station is about a minute from acquisition through the Hawaii tracking site. We will be in communication for about 6-1/2 minutes. Stand by for radio communication with the crew through Hawaii.

CC Skylab Houston. We're AOS over Hawaii for about the next 7 minutes.

CDR Roger Houston.

CDR And when you dump the M092 171 TV there's right on the end of it, a shot of white light coronagraph (garble)

CC We copy.

CC (garble)

CDR Hey Houston, this 56 hung up again in active MOD 1 of the last go round on filter 1.

CC Understand it hung up in filter 1?

CDR Yeah, for some reason it does it every once in a while and then it will go on for 1 time and not do it.

CC Copy.

CC Skylab for your information, on our next pass at the Vanguard, we are going to be turning on the secondary coolant loop again. And if you've got your caution and warning enabled, you'll probably get one.

CDR Okay.

SC (Music)

CDR If you want to know, this music is to do JOPS by.

CC Yes.

CC Skylab Houston. We're about 30 seconds from LOS. We'll see you again over the Vanguard at 22:07, 22:07. And right now I guess we're thinking that 56 problem may be associated with when you start 55.

CDR Fifty-six has something to do with fifty-five?

CC It seems like that filter thing is hanging up just about the time that you're starting 55.

CDR Fifty-five was running last time.

CC Ah-hah. Okay.

PAO The Commander said "that's music to do JOPS by." And JOPS is joint observation program, a part of the Apollo Telescope Mount experiment series. At 21 hours 43 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-870/1

Time: 17:05 CDT 18:22:05 GMT

6/11/73

PAO This is Skylab Control Houston at 22 hours 5 minutes, Greenwich mean time. The Skylab space station is about a minute away from acquisition at the Vanguard tracking ship. We will have about 9 minutes - 9-1/2 minutes of air to ground through the Vanguard tracking ship. And we'll stand by for radio communication with the crew.

CC Skylab, Houston. We're AOS over the Vanguard for the next 10 minutes.

CDR Hi there. Say, 56 hung up again. Middle of the pass, active MOD 1, filter three. And S055 was running at the time.

CC Roger. It would appear that maybe it isn't necessarily 55, but they think it's being caused by some stray input coming in. That hung up on filter three that time. That's affirm.

CDR Yeah. Second pass through. That seems to be it's favorite one. It hangs up in MOD 1. The second pass through, it hangs up at filter three.

CC Roger. And Skylab, we are going to be activating the secondary coolant loop this pass.

CDR Okay.

CDR Okay, Houston. We have a sec COOLANT

info light.

CC

We copy and we're shutting down the loop.

CDR

Okay.

END OF TAPE

SL-II MC-871/1

Time: 17:10 CDT, 18:22:10 GMT
6/11/73

CC CDR, Houston. You got a chance to talk to me about a S073 problem that we've got?

CDR Yeah, go ahead.

CC Okay, apparently we're getting some stray light into the instruments for some reason and there are a couple of things we'd like to try. Unfortunately they're using the recorders right now down on 171, so we really can't, apparently, make a run on it right now. Our first option would be to start it on our next Vanguard pass, but that's going to drag you guys out of some of your pre-sleep activities. Would you go along with that?

CDR Yep, go ahead, we'll see.

CC Okay, at your first opportunity we would for you to cycle the PMT cap switch to OPEN and then back to CLOSED. That's this rev.

CC Okay, on the next rev, I'll give you a call on it at our next Vanguard pass and we want you to run a short mode zero-alfa. It's short in that we're only going to take 12 (garble)

CC Okay, PMT caps switch OPEN and then CLOSE right now, and you wanna run a short mode zero-alfa.

CC That's affirm.

CC And if I've still got you there I might as well tell you about on your S073 pad for this evening - the way it was broadcast up to you it may look like it belongs to the PLT, but the last half of it does belong to you. Do you happen to have that handy?

CDR Yes I do and I was going to ask you. The shaft and the trunion are just like they are in the book, but you want to go with the pad, right?

CC That is correct and we also would like to change that program START time. It's currently still 114. We'd like to change that to 01:16.

CDR Okay, you had it 01:09 to 01:14, and you want to call it exactly 01:16, right?

CC Stand by one, Pete.

CC Okay, slight mod to that, 01:09 should be 01:14 and the 01:14 should be a 01:16.

CDR Okay.

CC Okay, Pete appreciate it.

CC Skylab, Houston we're one minute from LOS. We'll see you over Ascension at 22:22. We'll be doing a data recorder dump at that station.

CDP (Garble)

CDR Okay, Crip, I cycled the PMT cap OPEN and then CLOSED again.

CC Thank you very much.

SL-II MC-871/2

Time: 17:10 CDT, 18:22:10 GMT
6/11/73

CDR

You're welcome.

PAO

The Skylab space station has passed out of range of the Vanguard tracking ship. We have an announcement for the press. There will be a Change-of-shift briefing in the news center briefing room at - starting at approximately 6:30 p.m. central daylight time. Mel Brooks, who has the title of Manager of the Flight Operations Management Room, acronym FOMR, will meet the press tonight to answer their questions to give them a status report on the Skylab mission for today. Also, another bit of information. Earth Resources pass number 9 scheduled for tomorrow will start at Grand Forks, North Dakota, and experiments information will be taken over Grand Forks and over at - and along a track which takes the spacecraft over Detroit, Washington D.C., out over the ocean, ending up at Recife, Brazil, in South America. Length of the pass is about 6800 statute miles. Tomorrow's EREP pass starts about 7:00 a.m. central daylight time. And we'll be standing by for acquisition of signal at the Ascension site, so we'll just keep the line up.

END OF TAPE

SL-II MC-872/1

Time: 17:18 CDT 18:22:18 GMT
6/11/73

PAO We expect spacecraft acquisition at the Ascension tracking station in about 4 minutes.

CC Skylab Houston. We're AOS over Ascension for about 7 minutes, and we'll be doing a data recorder dump.

CDR (garble)

CC And Skylab, as you might have gathered on that last secondary coolant loop, we didn't have any joy in getting the valve to cycle. So, we're going to let it set with it turned off probably over night.

CC And CDR Houston. For your information in case it wasn't clear a while ago, the reason we're asking for one more cycle or one more rev before we do this S073 operation is that we need it on the dark side to really be able to determine if we've got a light leak.

CDR Okay, we've had the wardroom window closed all the time, and I - -

CC Pete, I was really unable to copy there due to feedback. Understand that you had the wardroom window closed.

CDR Okay. The wardroom window was closed, that's right. And I can't think of any other place that it could be coming in.

CC Okay.

CC Skylab Houston, we're 1 minute from LOS. See you again at Guam at 23:06, 23:06.

PAO The S073 experiment in question during the last couple of passes over tracking sites, is the Gegenschein Zodiacal light experiment. Apparently unwanted or stray light earlier perturbed the experiment when it was conducted at an earlier pass. And the flight controllers and the crew are investigating in order to correct the anomalies. Our next contact with the space station will be at the Guam site at 23 hours 6 minutes Greenwich mean time. And we'll be in contact for approximately 6-1/2 minutes. We'll take the line down now. At 22 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-873/1

Time: 18:03 CDT 18:23:03 GMT

6/11/73

PAO This is Skylab Control at 23 hours 3 minutes, Greenwich mean time, with an advisory to the press. The change of shift briefing that had been announced earlier as having started at 6:30 p. m. central daylight time, will be delayed approximately one hour to 7:30 p.m. central daylight time. Here in the Control Center they're in the process of handing over. The Milton Windler team of controllers are off-going and they're handing over to the team of flight controllers headed by Donald Paddy. We're about a minute and a half away from acquisition of the spacecraft, the Skylab space station, through the Guam tracking site, and we'll be in contact for some 6-1/2 minutes. We'll stand by for any radio transmissions that take place between the crew and the ground.

CC Skylab, Houston. We're AOS over Guam for about 7 minutes.

CDR Hello.

CC Hello.

CC Skylab, Houston. We're uplinking to you via the teleprinter the summary flight plan and the evening questions.

SPT PLT says we got the teleprinter turned off.

CC I figured you guys were about ready for that.

SPT No, we're not ready for that yet.

CC We are down here.

(laughter)

CDR See you at the (garble) for a cold one.

CC In about 30 minutes for me.

CC And Skylab, before I leave you here. I guess we went back and reviewed some pictures regarding the backup tripod that was loaded, and sure enough, we got a plate that the hole pattern was - looks like it was drilled in with a mirror image.

PLT There you go.

CC And they asked why we did C squared S squared.

CDR That's right.

CC Skylab, we're 1 minute from LOS. We'll see you again at 23:44, 23:44 over Vanguard.

CDR Okay, and I gathered you wanted 12 revs on that 08. It's all set up, ready to go.

CC Okay, that is affirmative. 12.

CDR Okay, and you gonna call us start time. Right.

SL-II MC-873/2
Time: 18:03 CDT 18:23:03 GMT
6/11/73

CC That's affirm. We'll give you a call
when to initiate it.

CDR Okay.

CC Okay, we didn't get that flight plan
completely up. Had a lot of dropouts, we'll try it again
over Vanguard.

CDR Copy, copy. Okay.

PAO We've passed out of range of the Guam
tracking station. At 23 hours 12 minutes Greenwich mean
time, this is Skylab Control.

END OF TAPE

SL-11 MC-874/1
Time: 18:42 CDT, 18:23:42 GMT
6/11/73

PAO This is Skylab Control, Houston at 23 hours
42 minutes Greenwich mean time. Coming up on the Vanguard
tracking station in about a minute. Following the Vanguard
pass we should have acquisition at Ascension, the Canaries,
and Madrid for a long period of com. We'll stand by for the
air-to-ground.

CC Skylab, Houston, AOS 11 minutes.

PLT Hello, Houston where are we?

CC You're over Vanguard.

PLT Okay, and we're standing by to run S073
for you.

CC We'll give you the GO on it.

CC PLT, Houston.

PLT Go ahead.

CC You're GO for the experiment now. Be ad-
vised that we're having some MOC problems here and we
may not be getting TM and we'll be dependent upon data record-
ing, and we request that you verify that it is set up for
data recording.

PLT It's all set.

PLT It's all set up and we'll do it.

CC Copy.

PLT Okay, it's running.

CC Copy.

END OF TAPE

SL-II MC-875/1

Time: 18:47 CDT 18:23:47 GMT
6/11/73

CC PLT Houston.
PLT Go ahead.
CC Our MOC was working and via TM it
appears that the S073 shutter is operating normally.
PLT Okay, thank you Bill.
PLT (garble) reported the ready light is secure.
CC TM will turn off automatically so just
let it run.
CDR Houston, CDR.
CC Go CDR.
CDR Roger. I noticed that the intensity is
pegged high. Do you want me to go to low gate?
CC Stand by.
CC CDR, Houston, we want you to go FOV 1.
CDR FOV 1.
CDR We go FOV 1.
CC Copy.
CC Skylab Houston. LOS in 1 minute. Ascen-
sion at 23:57. And you should have a flight plan onboard
for a review.
PLT Roger Houston. Bye.
CC We'll see you.

END OF TAPE

SL-II MC-876/1

Time: 18:55 CDT 18:23:55 GMT

6/11/73

CC Skylab, Houston. AOS for 15 minutes.
CDR Roger.
CC And Skylab, if it won't interfere with
your activities, we have some news items a bit earlier this
evening.

PLT

Go ahead, Houston.

CC First one is, the President met with top
economic advisors today, and a new economic program is ex-
pected to result from the meeting, perhaps by the middle of
the week. Just as background, you may have been following
the increase in gold prices and that sort of thing. Also,
Henry Kissinger met with the President today to try to find
new ways to enforce the cease fire in Viet Nam. And the
Senate had a hearing on the oil and gasoline shortage, and
they heard witnesses say that this summer gas shortage may
be followed by a winter heating shortage, and that the oil
companies want to relax their pollution standards. Here's a
piece, I guess it can happen to anybody, an airliner, it
doesn't say what size, mistook Opaloca today for Miami In-
ternational and landed there. About the only other thing -
we mentioned last night that Petty won the Alamo 500, and
his average was 145.1.

CDR Hey, Bill (garble) race of championship
cars at Milwaukee, and if so do you know who won that, or is
it this weekend?

CC

We'll try and get it for you Pete.

CDR

Thank you.

CC

Also, if there's anything else you people
might want, like stocks or such as that, why let me know
and we'll try to add it to the list.

CDR

(garble) You're doing great.

CC

And by the way, we had some big thunder
bumpers that opened up and pretty well flooded some areas
of Houston today.

CDR

Still a wet year, huh.

CC

Affirm.

CC

Pete, the best information we can dig up
out of the group around here is that Bobby Huntra won that
race yesterday. We don't have any details. We'll try and
get some more for you.

CDR

Okay. Thank you.

END OF TAPE

SL-II MC-877/1
Time: 19:06 CDT, 19:00:06 GMT
6/11/73

CC - we also have a letter here that we were asked to pass along to you, addressed to Dr. Fletcher. It says that you astronauts have done it again. The magnificence of this accomplishment and the significance of the achievements - -

CC And Skylab, continuing before we were so rudely interrupted there. "The magnificence of this accomplishment and the significance of the achievement is nearly impossible to put in perspective. I know I speak for all my colleagues in the Congress when I send this message of congratulations to you with the request that you communicate our great appreciation to the astronaut team of Conrad, Kerwin, and Weitz. You are truly a can-do team. We salute you all" Signed: Frank Moss, Chairman Committee on Aeronautical and Space Sciences, United States Senate.

CDR That was very nice.

CDR We haven't done anything yet, we gotta get through 28 days.

CC You've done pretty well so far.

CDR I don't expect to buy any (garb) with your picking up the pace a little though.

CDR We're going for the home stretch.

CC And it always looks easier going down hill.

CDR We had meal six tonight. That's everybody's - well, that's Paul and my favorite meal. Joe's is I don't know what night his is but we chowed down pretty good tonight. That's stuff our big Sunday night dinner.

CC We copy that.

CC Do you count your days by the meal cycles there?

CDR (Garble) various schemes.

CDR How many more times we have to 171 or how many more times we have to change this bag or that thing - -

CC We copy.

CC 172 wasn't too bad today was it Pete?

CDR Oh, I didn't do that, Joe did that nasty stuff. He's working on my throat culture or something. He's got his instruments out and he's working his way around with them there.

CC Copy.

SPT I have my hobby up here. I have my do-it-yourself real doctor kit. Right now I'm staining the slides.

CC Very good, maybe you'll grow a new variation up there, (garble)

SPT I can't even tell you what it looks like.

The M172 went fairly smoothly today, Bill and the numbers looked

SL-II MC-8.7/2

Time: 19:06 CDT, 19:00:06 GMT
6/11/73

pretty good.

CC

Okay, thank you again.

SPT

And you know we did not do the procedure in the morning weight because I thought the pad was a calibration pad and I didn't even look at it until breakfast, but we'll do that tomorrow morning.

CC

Okay.

CDR

(Garble) The orbits have been changing, Bill, we been going - coming up on our sleep time over Australia - that it - good high noon conditions and the weather's been good and we've got some pretty good looks at all of Australia and New Zealand, which y'all see (garble) It was always night time in Australia or just barely barely daylight much of Australia.

END OF TAPE

SL-II MC-878/1

Time: 19:11 CDT 19:00:11 GMT

6/11/73

CDR And we've gotten some pretty good looks at all of Australia and New Zealand. On all of my previous flights it was always night time in Australia or just barely barely daylight in much of Australia.

CC Yeah, we copy that.

CC And be advised that S073 is completed.

CDR Okay, I'll just the recording box.

CC SPT Houston.

CC Delay that. Delay that. PLT Houston.

PLT Go.

CC We'd like for you to lock the star tracker now. The inner gimbal is plus 0177, outer gimbal plus 1981.

PLT Okay wait until I get a piece of paper.

You'll have to read them over Bill.

CC Wilco.

PLT Okay, say again the angles.

CC Inner gimbal plus 0177, outer gimbal plus 1981.

PLT You say you wanted that now or when it's available?

CC When it's available.

PLT Okay, some of it is not available right now.

CC That's affirm.

CC And Skylab, we'll be LOS in 1 minute.

Guam AOS 00:41, and we will be dumping the recorder over Guam.

CC And Pete, a little more information on that Rex Hayes memorial in Milwaukee. And he finished 10 seconds in front of Roger McClusky. Gary Bettenhausen was third, and his speed was 108 miles an hour. And there were no accidents.

CDR Good show, thank you.

PAO The Skylab space station has moved out of range of the Madrid tracking site, the last of a number of stations that had contact over the last 35- 40 minutes. Guam is the next tracking site, and we have acquisition of signal in about 23 minutes. Copies of the Frank E. Moss telegram to Dr. James C. Fletcher congratulating the team and the astronauts are available. Copies of that telegram are available in the News Center Briefing Room. At 18 minutes into the new day, that is day of the year 163, this is Skylab Control.

END OF TAPE

SL-II MC-879/1

Time: 19:32 CDT 19:00:32 GMT
6/11/73

PAO This is Skylab Control, 32 minutes into the new day, Greenwich mean time. The change of shift status report will take place momentarily with Milton Windler, the off-going flight director, and is head of the Maroon Team, responding to questions from the press. We're about 8 minutes from acquisition through the Guam station. We'll take the line down and tape any of the information coming from the crew or going up to it through the Guam station. At 33 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

EL-II MC-880/1

Time: 20:15 CDT, 19:01:15 GMT

6/11/73

PAO This is Skylab Control at one hour 15 minutes Greenwich mean time. During the - during the press conference that - the change-of-shift briefing that we just concluded, there was some four and a half minutes of air-to-ground that took place over the Guam tracking station. And we're prepared to play that for you now.

CC Skylab, Houston. AOS Guam for 10 minutes.

PLT Go ahead, Houston.

CDR I'll have the evening status report for you in just a minute.

CC We're standing by Pete.

CDR Okay, Houston, the CDR ate everything plus 10 optional salts, plus two butter cookies - two cans of butter cookies, that is.

CDR The SPT had everything except one coffee with sugar. No optional salts, no Delta H2O. And he's going to have two cans of butter cookies.

CDR And the PLT ate everything except one coffee with sugar and he had no Delta H2O and seven optional salts.

PLT (Garble)

CDR And that's it for the food. Are you ready for the photo report for day 161?

CC We're ready Pete. Go ahead.

CDR Okay, 16 millimeter EREP the H Bravo Hotel 02. I'm sorry - day 162 - I was reading you the wrong button. Bravo Hotel 02, 80 percent remaining and yesterday on 160 day 161 we reported 65 percent remaining and I think he misread that - that's an 85 for 161 and 80 for today. And we did verify that the film is running. M516-2CI, 05, 40, C101. M151/S073 PR and extend. C108, 18, C107; 35 millimeter: C127 is complete, C129, 32 - oh I have to look at this a minute. The C128 is 12. The S06 is 91. The ETC, 135. EREP that pop-up 17145, 2 with 6481, 3 was 7357, 4 was 7352, 5 was 0896, and 6 was 8212. Drawer A configuration is as follows: Alfa 1 is 02, Charlie India 05.0, Charlie India 01. Alfa 2 was 03, Charlie India 06, 62, Charlie India 03. A3 is 06, Charlie India 08 18, Charlie India 07, 04 is 05 - A4 is 05, Charlie India, 25, 100 percent, MT11. Okay the flight plan was accomplished as written - I don't know of any deviations - any anomalies that you're aware of - no stowage changes and no inoperable equipment that you're aware of. The flight plan for tomorrow looks busy but good.

CC Copy.

CC Skylab, we're going LOS in 30 seconds. Coming up on Vanguard at 01:21. And, Pete we've got some clarification on that incomplete second question last night.

SL-II MC-880/2

Time: 20:15 CDT, 19:01:15 GMT
6/11/73

What they're really after is when you turned on the loop - the LCG loop in relation to suiting up. And you have a medical conference scheduled for the next pass. That should have been the SUS loop instead of the LCG loop.

CDR We're going to have to reset that one. I don't really remember it.

PAC We're about a half a minute from the Vanguard tracking ship and at that time when we will have the evening or the daily - rather the daily medical conference. We'll stand by - we'll keep the loop up during this Vanguard pass, standing by.

END OF TAPE

SL-II MC-881/1

Time: 20:21 CDT 19:01:21 GMT

6/11/73

CDR Houston Skylab.

CC Go Skylab.

CDR Okay, on the flight plan for tomorrow for the CDR from 20:00 on to 23:00, that S073 stuff looks all goofed up to me. You got me running 2 programs that retract again on M151 and then running another program and then retracting it again. I don't think that's right. Can you see if you can get that straightened out between now and the next pass and let me know if it's goofed up or not. Because I just don't understand it.

CC Wilco CDR.

CDR Also, it says to extend it first thing in the morning on this flight plan. And we have nothing up here tonight that says to retract it. I need that straightened out also.

CDR Did you get that?

CDR Goodbye.

CC CDR, we'll be LOS here in approximately 15 seconds. We'll go at Canary at 01:41. And the details that are coming up shortly should explain the flight plan. The retraction is 7 to 2 rods, that also is on the detail plan.

CDR Okay. (garble)

CC (garble)

CDR (garble)

PAO We've had loss of signal from the Vanguard site. We'll be back up to the Canary Island tracking station in about 10 minutes for a 9 minute pass there. At 1 hour 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-882/1
Time: 20:40 CDT 19:01:40 GMT
6/11/73

PAO This is Skylab Control at 1 hour 40 minutes, Greenwich mean time. The space station is approaching the Canary Island tracking site, where we will have contact for about 9-1/2 minutes. We'll stand by for the radio transmission through the Canaries.

CC Skylab, Houston. AOS approximately 14 minutes.

CC Skylab, Houston. AOS for approximately 14 minutes.

PLT Hi there Houston.

CC And someone was talking when we went over the hill before, and we didn't get the last comments.

CDR That was me saying that I wasn't really sure I believed you. That when I got the details tomorrow it'd all be plain to me what our flight plan was, but I'll give it a try.

CC Copy, Pete.

CDR I do have some reservations. You got enough photo TV stuff tied in with the rest of the stuff that it looks to me like I'm gonna run behind in the afternoon. That's just my offhand guess right now. I'll scurry and do the best I can.

CC Copy. And those pads should be coming up on this pass. Also we're configuring the GYROS for the sleep and that's why I want 2 on the line and 1 and 3 as back-up.

SC (garble) down there if the GYROS worked the way they were supposed to work?

CDR We're working on a new game up here Houston. It's called get the rubber ball back to you. Trying out the water ring lockers first.

CC Which ball you using, Pete?

CDR The big rubber one, but it gives up energy awful fast though. It kind of poops out after four or five bounces.

CC Copy.

CDR What we really need is one of those super balls.

CC Yeah, it must be some sort of ESP going along. That comment just came from two people down here as well.

CC You can always pull down a couple of those big lockers and drop half of them down like medical balls, I guess.

CDR Yeah, we did that with 183 and S073, that heavy gear, we throw that around for exercise.

CC You're coming too close tonight, Pete.

SL-II MC-882/2

Time: 20:40 CDT 19:01:40 GMT

6/11/73

CC Pete, how much noise and vibration do you have in that thing up there? Sounded pretty quite on your read-downs the other day.

CDR It's very quiet in here. If the DAF meter was right, the noisiest part is up in the MDA. It's about 64 DB, and down here in the workshop, the wardroom and the bedrooms runs about 55.

CC How about vibration? Can you feel much in the framework and such?

CDR There's no vibration at all. We can hear - you can't hardly hear the fans running, what we can really hear running are the refrigeration pumps, and there's no vibration. We got a friendly hunk of meteoroid shield or something outside, though that crackles. Especially when we go in the dark. Very loud and plain. One big crunch. It does it every night when we go in the dark. That's about it.

CC Yeah, we heard about that one the other night.

CDR We were glad to see the other experiments come up, because we've been running about 3 days now, on essentially the same routines for everybody and we were just remarking we needed a little change of pace, and tomorrow looks like it will do it.

CC Yeah, there's usually something though to turn things around after a period down here.

END OF TAPE

SL-II MC-883/1

Time: 20:46 CDT 19:01:46 GMT

6/11/73

CC - - And review something now. To turn things around after a period down here.

CC There is a certain amount of casual requests for crew time going on down here as you might imagine.

PLT uh-huh.

CDR Don't worry, we find plenty of things to keep ourselves busy with.

CC What I meant was, one investigator might be casually requesting another investigator to give up a bit of time, this sort of thing.

CDR I see. Well you know it's sort of like Joe and Paul were good boys tonight, so I let Joe have the command module and Paul have 509.

CC Copy.

CDR The PLT spends his spare time looking for new places to sleep.

CC Have you tried letting him sleep strapped in the 509 yet?

CDR Yeah Hank, we're ready to charge the batteries and the bottles on 509. We got it all activated last night.

CC Your translation modes up there are pretty interesting. I had predicted the links weren't always going to be too useful there. And I noticed that Joe seems to keep his pretty well tucked up under his.

CDR Everybody has their own way of going, and it depends on what you're doing. Joe likes - when he's working and he's got to be held down, Joe uses the lollipop. I've stuck strictly with the triangle shoes, depending on the task, or I wear my slipper shoes. It's a matter of what I'm going to do. When I'm going to run the ATM, I don't need the triangle shoes. So, we've got all kinds of different ways of trying to do it, doing his own thing. But essentially I think the most important thing is that all of us can do all the tasks and we really don't have too much trouble doing them. As I said earlier and it still applies, if it's got a lot of little pieces that you've got to hold on to keep track of a lot of things, it slows you up a little bit. But that's about the only difference up here than down there. We've adapted very well. Everybody - well if you're just resting, we just free float and wind up wherever we wind up, in the ceiling, on the floor, over in the corner, ricocheting off the walls, and it doesn't seem to bother us.

CDR We've also gotten to where we can turn the vehicle right side up or upside down, depending on how we want to do it. If you want to stand on the ceiling for a while, after a while everything looks perfectly natural

SL-II MC-883/2

Time: 20:46 CDT 19:01:46 GMT

C/11/73

that way.

CC Copy that. And we gathered that you had some pretty efficient ways of hanging on, some of which left us mystified down here as how you seemed to be stabilizing with feet, with a no apparent way of doing it. You didn't appear to be in triangle shoes or anything, yet you seemed to be hanging on some way.

SC Don't tell, don't tell. (garble)

CDR Well, I won't

CDR Well, it's like I'm talking to you right now. You know, you asked how we adapt. I'm in the wardroom and my feet are up in the ceiling and my head is over the SIA with my back to the window. And I'm just dusting over here, you know just free floating up in the air with my feet in the ceiling.

CDR Are you still there, Houston?

CC Say again Pete?

CDR We did rig the fireman's pole. You know we've been using the strap, and we rigged the fireman's pole the other day. And the only thing about it is as I went up and did a couple of little wing dings around it, and I discovered even more so than you see this on the other things, that you've got to watch the old conservation of momentum, because I started circling it stretched fully out at arms length and went and pulled myself into the pole. And I really got wrapped up. That's the one device I think that you can get yourself going on where you can get flung off and get hurt if you weren't careful.

CC We copy that. Ballerinas probably could have made some comment on that one.

END OF TAPE

SL-II MC-884/1

Time: 20:51 CDT, 19:01:51 GMT

6/11/73

CC Dr. Ballerinas probably could have made some comment on that one.

CC And Pete, those details are onboard for your flight plan.

CDR Okay, we just had a first here. Paul fired one from the experiments compartment down off the top of the trash airlock and it returned all the way to where, Paul, the command module - made it all the way to the command module.

CC Is that that miserable little sponge ball that has very little elasticity at all?

CDR Oh, no, this is a blue rubber ball, regular rubber ball.

CC Copy.

CC One last question, Pete. When you apply force to a body - your body. Do you get into much trouble with rolls and that sort of thing? Or do you pretty well sense where the center of gravity is?

CDR No, you sense real easy where it is. I - I mean we're not perfect because - mainly because of the kind of things that you're taking off from - but you have a pretty good idea how you want to take off. And you may not be able to push off the particular object just in the right manner, but we've gotten pretty good. I think the M151 movies and stuff will show you a lot more than the television did about how well we get around. But we've really adapted. I'm really convinced that the first day back we're going to leap out of bed and land right on our heads.

CC Yeah, we've got a football helmet set aside for you on that one Pete.

CDR Be helpful.

CC Are you still there, Bill?

CC Yeah, we're still here, we've got about a minute and a half.

CDR One of the other things that I've noticed is that in holding ourselves while we're out here and doing our tasks we really use our stomach muscles. It's really interesting - I - the first three or four days that we were up here we kept finding ourselves just - really holding our stomachs to hold the right position - that you use your stomach muscles more than anything else I think in holding wherever you are. In working on it, whatever it is that you're working on.

CC Yeah, there's some pretty good physiological reasons for that because normally all of the vertebral muscles are on the back side to take care of center gravity on Earth. And you really don't have much required on Earth. So, we're

SL-II MC- 884/2

Time: 20:51 CDT, 19:01:51 GMT

6/11/73

going LOS here in about 45 seconds and at Honeysuckle we'll be AOS at 02:29.

CDR

Okay.

PAO

We've had loss of signal with the Skylab space station. On this pass they started at the Canary Island tracking station and then had an overlap with the Madrid station. And came up with a very interesting thought - explanation of how it is to live, work, and I guess, play, in space. Earlier there was a daily medical conference and the results of that conference are available to us now as written by Dr. Charles E. Ross. Dr. Ross writes: "The Skylab crew is in good physical condition following their day of activities. The crew continues to eat well and the iodinated water tastes good according to the Science Pilot, Dr. Joseph Kerwin. The Science Pilot did perform a throat culture and slide study from material taken from the Commander's throat. He stated that the microscope and slide stainer worked well. We will next acquire the space station over the Honeysuckle site in 31 minutes. The pass there will be approximately eight minutes long. And at one hour 58 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-885/1

Time: 21:28 CDT 19:02:28 GMT

6/11/73

PAO This is Skylab Control Houston. Two hours 28 minutes, Greenwich mean time. The space station is approaching the Honeysuckle, Australia tracking site for what will probably be the last communication for the night. We'll stand by for air to ground with the crew through the Honeysuckle station.

CC Skylab, Houston. AOS for 7 minutes at Honeysuckle.

PLT Roger.

CC CDR, Houston.

PLT Say again.

CC Is the CDR available?

PLT He's listening.

CC Will you have a opportunity to answer the evening questions this pass since this is the last one before going to sleep.

PLT Okay, wait a minute. Let me go get him.

CDR The answer to question number 1 is on B channel. I just put it on there, about the locker door.

CC Copy.

PLT I got a question. I have an evening question for the EREP people, Houston.

CC Go.

PLT Does the TV camera, - I guess it doesn't does it. The TV camera, when it's stalled on the VPS, does not look through the yellow filter, does it, I think, question?

CC That one's being worked.

SPT And Houston, SPT. The answer to question two is I woke up.

CC (Laughter) Copy, Joe.

CDR And he blew all his fuses. Are you ready for question three?

CC Okay.

CDR Three Alpha, no. Bravo, no. Charlie, no. Delta, yes. Anytime it got ready to stop. Echo, no. Foxtrot, yes.

CC Thank you very much.

CDR That new Beta angle that we got in the Alpha (garble). get a look at going forward in orbit. I see my old buddy the Moon out there in front of us coming up. It looks pretty nice.

CC We copy.

CDR We're just coming up on New Zealand. I think I'll get a few pictures of that.

CC You're sure that's not Puerto Rico.

CDR You said Honeysuckle before I said New Zealand.

SL-II MC-885/2

Time: 21:28 CDT 19:02:28 GMT

6/11/73

CC

Copy.

CC

PLT, the TV does not look through the yellow filter. We're going LOS here in a few seconds and we'll see you tomorrow.

PLT

Good night.

PAO

We've had loss of signal through the Honeysuckle tracking station. And the Capcom Bill Thornton gave the crew a good night, thus ending another busy day, mission day 18. At 2 hours 38 minutes, Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-886/1

Time: 05:56 CDT, 19:10:56 GMT
6/12/73

PAO This is Skylab Control at 10 hours 58 minutes Greenwich mean time. And we're preparing to wake the crew up over Hawaii, where we'll be acquiring in about 1 minute. An active day of experiments are scheduled. We have an early EREP pass, number 9. During this EREP pass, the sensors will be turned on over Grand Forks, North Dakota, and 20 minutes later they'll be turned off over the Atlantic Ocean, near Recife, Brazil. They'll be obtaining data over the Great Lakes, the Washington, DC area, and the Atlantic Ocean. We're about 30 seconds away now from acquisition of signal. Our flight director at the present time is Neil Hutchinson and CAP COM, spacecraft communicator, is Hank Hartsfield. In addition to the EREP experiments today, the crew will be performing medical experiments, M092 and M171, as well as a full round of ATM activities - the Apollo telescope mount.

CC Skylab, Houston. Good morning.

SC Good morning. We've been up for a half hour. You still (garble) all night?

CC Paul, it seems like it. We got about 8-1/2 minutes left here at Hawaii.

SC Oh, okay, Hank. You sounded like Bill when you first came on.

SC Hey, Henry.

CC Go ahead.

SC Got a question for the (garble). It doesn't have to be answered now. The next pass or so. For the EREP TV this morning, you know we've been doing everything on channel A; what we're proposing is to operate as we normally do and go VOX on channel A and voice record A. And this morning what we're proposing to do is plug in the connector to the VTR into channel A to voice record that channel instead of B. I just want to verify if that's okay.

CC Okay, I'll get an answer.

CC Skylab, Houston. We're 30 seconds from LOS; Goldstone will be coming up at 11.

SC Roger.

PAO This is Skylab Control. That's all through Hawaii. An alert sounding crew this morning. And we'll be acquiring over Goldstone in about a minute and a half. We'll keep the lines up live for that Goldstone acquisition and subsequent pass over the continental United States. Our change-of-shift briefing will occur 1 hour and 30 minutes early this morning. And the flight teams will handover early, and Flight Director Neil Hutchinson will hold a change-of-shift briefing in the JSC News Center briefing room at 7:15 a.m. central daylight time. We're now less than 1 minute from Goldstone acquisition.

END OF TAPE

SL-11 MC-887/1

Time: 06:10 CDT, 19:11:10 GMT
6/12/73

CC Skylab, Houston through Goldstone for
6-1/2 minutes.
PLT Roger.
CC And, Paul, answering your question, we
concur. We think putting the voice on the VTR is a good idea.
PLT Okay. We were going to do that anyway.
I just wanted to make - confirm that just pushing the channel A
doesn't glitch anything.
CC Roger.
PLT (Garble), Houston. You there?
CC Roger. We got about 1 minute left.
PLT Okay, something for the S073 guys to
think about. According to our calculations, S073 is not going
to phase the program it's in right now before it has to be
secured to put the other rods on.
CC Okay; we'll take a look at that.
SC Did you want us to do it? I tell you
what - Pete said he ran it out at 01 something. According to
our onboard procedures book, that takes 10 revs to complete
that, and so that's not going to be done for another - it's
only been 10 hours now; it's only two-thirds of the way through,
I guess, - something - -
CC Okay; we'll work that. And we're about
10 seconds from LOS. Bermuda will be coming up at 22.
PLT See ya.

END OF TAPE

SL-II MC-888/1

Time: 06:20 CDT, 19:11:20 GMT

6/12/73

CC Skylab, Houston through Bermuda for 9-1/2 minutes.

CC And, Skylab; Houston. An answer to the question on the S073 - we plan to terminate that program early. And it's in the remarks section of message 1923. It talks how to terminate it by cycling the power off.

SC Roger.

SC Thanks, Hank. We just hadn't quite made it all the way through the 22 footer you sent us last night.

CC Roger.

SC That's the only trouble with that. I wish there was some way you could get those early morning remarks, like inhibit momentum dump. Any of that stuff that's in PSA, and we really hassle it to find it in the morning. You know? And I don't know what you can do to work on that, but the flight planners might think about it. I'd sure appreciate the details of the - things that you want during the PSA the night before, if possible. Because it catches us with our pants down every time.

CC Roger. We were just talking about that. We see that as a weakness in the way we're operating. We don't know yet what we can do about it.

SC Well, maybe you can't fix it for our flight, but it's something to think about for the future. Because it (garble). And it's real easy for something there to crack.

CC Roger.

CC Skylab, Houston. If it's convenient, we'd sure like to know the position of the FILTER WHEEL AUTO SWITCH on the S073.

SC It's in the center A and B position.

CC Roger. Center A and B

SC That's right, isn't it?

CC That's affirmative.

CC Skylab, Houston. One minute to LOS; Canary coming up at 33.

END OF TAPE

SL-11 MC-889/1

Time: 06:32 CDT, 19:11:32 GMT
6/12/73

CC Skylab, Houston through Canary and Ascension for 15-1/2 minutes.

SC Roger.

CC Skylab, Houston. For info only, we're reconfiguring the rate gyros for daytime OPS.

END OF TAPE

SL-II MC890/1

Time: 06:44 CDT, 19:11:44 GMT
6/12/73

CC Skylab, Houston. Telemetry is showing that experiment 1 and 2 recorders are not running. Could you check that out and perhaps find out, if you can, why they stopped and get them going again?

SC Well, we stopped running them because the experiment stopped. We didn't know you wanted them to keep running.

CC Oh, the experiment stopped?

SC We terminated S073. (Garble) extended it to (garble) right now.

CC Roger; copy.

SC You want them on now, Hank?

CC Negative, we got a little mix up down here.

CC Skylab, Houston. We're about 1 minute from LOS. We'll be coming up on Carnarvon at 12. I'd like to remind you you have a inhibit momentum dump scheduled at 11:55.

SC Okay, thanks for reminder, Hank.

PAO This is Skylab Control. Now we're now out of range through the Ascension Tracking Station. Be reacquiring over Carnarvon, Australia in 22 minutes. The change-of-shift briefing scheduled for 7:15 will be delayed at least 30 minutes. We'll give you a reschedule time on that as soon as we are complete with our shift handover. On the crew's schedule for today, an active day of experiments, which includes an Earth Resources Experiments pass, EREP pass number 9. That'll occur beginning on revolution 416, continuing on into rev 417. And we expect to get television of the visual tracking system targets. We expect the VTS system with the TV attached. We'll begin providing pictures over Minnesota. However, the crew will be tracking the jet stream cirrus clouds. They'll also be looking at a storm front below the Great Lakes on over across Lake Michigan, perhaps extending as far as Lake Erie. And they'll be tracking Washington, D.C. for about 1 minute, continuing on off the coast into the Atlantic looking for chlorophyll blooms off the east coast. About the time we lose contact with Skylab, they'll be tracking trade wind cumulous buildup and also tracking the intertropical convergent zone weather patterns. Data collected on the EREP 9 pass will be used to support studies of wildlife habitat in North Dakota. Also hydrologic and cartographic information will be obtained in the Great Lakes Region. They'll be gathering information useful in natural resources management in Ohio and will also be collecting data on the state of Maryland's environmental impact on the Chesapeake Bay Region. Also looking at sea surface features in the Atlantic Ocean.

PAO We'll be reacquiring over Carnarvon now in 18-1/2 minutes. At 11 hours 54 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-891,1
Time: 07:11 CDT, 19:12:11 GMT
6/12/73

PAO This is Skylab Control at 12 hours 11 minutes Greenwich mean time. About a minute away from acquiring Skylab over the Carnarvon, Australia, Tracking Station. The space station in its 416th revolution. Coming up on the United States this pass, we'll have an EREP data gathering pass for 27 minutes. We have not rescheduled the change-of-shift press briefing. The briefing is being delayed by a delay in the shift handover, which in turn is occasioned by the inclement weather here in Houston. A number of the flight team members of the on-coming team have not yet made it into the Control Center. Until that shift handover is completed, we obviously will not have a change-of-shift briefing. And we'll keep you informed on the situation there, and get the briefing rescheduled as soon as possible.

CC Good morning, Skylab; Houston. We're AOS over Carnarvon for 9 minutes.

SC (Garble)

CC Skylab, Houston. If somebody gets an opportunity, we would appreciate it if you'd turn SUS 2 PUMP PRIMARY first, in preparation for some troubleshooting. We're going to do a try on that secondary COOLANT LOOP later on today.

CDR Would you repeat the step, please, Crip?

CC Roger. On panel 217, would you turn SUS 2 PUMP PRIMARY. That's if you - -

CDR SUS 2 PUMP TO PRIMARY.

CC Roger; at your convenience.

CDR Okay, Crip, SUS 2 217 to PRIMARY.

CC Roger. Thank you, Pete.

CC Skylab, Houston, We're about 15 seconds from LOS. See you again over Guam at 12:27.

PAO This is Skylab Control. We've had loss of signal now over Australia. Be reacquiring in 4-1/2 minutes from the Guam Tracking Station. And the crew busily involved at the present time preparing for EREP 9 data pass over the United States and down over South America. It's a 27-minute pass, using the EREP sensors. Also on the Flight Plan for today, operation of the S073, gegenschein-zodiacal light experiment; and medical experiments, M092 and M171, will be performed by the commander, Pete Conrad, and pilot, Paul Weitz. Also a full day of Apollo telescope mount operations, and experiment M551, which will be involved with examining the flow of molten metals and the characteristic of various metal alloys in zero gravity. And we have a fairly active day of housekeeping chores, as usual. Also expect to get some television beginning at 7:50 central daylight time. Of the first TV that we'll see will be through the EREP visual tracking system. And the crew will be tracking targets in Minnesota, across the Great Lakes, and over Washington, D.C. Getting a look at Washington, D.C., for about 1 minute. We'll be acquiring now at Guam in 2-1/2 minutes. We'll keep the lines up for that acquisition.

END OF TAPE

SL-II MC892/1

Time: 07:25 CDT 19:12:25 GMT

6/12/73

CC Skylab, Houston. We're AOS over Guam for about 6 minutes.

SC Roger, Houston.

CC Roger. And for your information, we were a little bit late getting the ATM completely closed out from unattended operations. And there are a few items we still need to do, but we'll catch those after your ZLV pass, and it shouldn't - shouldn't be any effect on you.

SC Okay, we'll catch you now if you like.

CC No, that's okay. I think it would be easier just to catch them later. And for your info, the weather looks real good, especially down around the Chesapeake area today. It's mostly clear, which is more than we can say for Houston.

SPT This is the SPT. Which star are we tracking during ZLV? Is that Jupiter?

CC That's affirm. That message may have been a little bit confusing, but that's affirmative. We are locked onto Jupiter.

SC Okay.

CC And for your information, as we did yesterday without a warning, you might expect a CMG saturation during your ZLV maneuver today. So you might want to inhibit that C&W.

SC Okay.

CC Skylab, Houston. We're 1 minute from LOS. We'll have you again over Goldstone for the pass at 15, and we're looking forward to joining Paul on the VTS.

SC Yeah.

PAO This is Skylab Control. We have had loss of signal now through Guam. And we'll just be missing the acquisition - acquisition through Hawaii on this revolution. Acquiring in about 15 minutes 45 seconds at Goldstone for the start of that Earth Resources Experiment pass. At the present time we're receiving a bit of television that was taken yesterday, stored on the onboard recorder and dumped in the early morning hours at Mila, being brought in from Mila to Houston at the present time. This will be part of the TV6 and IV7, which will be replayed this morning.

PAO This bit of video had a replay including a small piece of ATM video, also taped and being shipped in from the Mila Tracking Station.

PAO That appears to be all of the television from Mila. We're checking with the site at this time to see if they have anything further for us before taking the line down.

PAO And Mila confirms that they have no further television coming to us at this time. We'll be acquiring over Goldstone in 6-1/2 minutes. At 12 hours 44 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL II MC893/1

Time: 07:49 CDT, 19:12:49 GMT

6/12/73

PAO Skylab Control, and we have acquisition.
The crew on VOX at this time. We'll pick up their conversation.
SC ...5310; think it out.
CC Okay.
SC Otherwise you may not get it. All right.
How do you read, Crip?
CC Loud and clear.
SC Two by 2.
CC Good TV.
SC Trying to see some Biblical movie just before
the heavens opened up.
SC Right.
SC Still over water?
SC No - well, I don't know. All I can see
is clouds.
CC Should be just coming up on Puget Sound.
SC Beautiful Puget Sound.
SC Tell Don Lindsey he was right. You cannot
tell the difference between the no filter and the light
yellow filter in this VTS, Crip.
CC Okay.
PAO Our EREP officer reports that looking
straight down your field of view is about 7 nautical miles.
SC Hey, a FAC zoom?
SC Out, in. Yes, out.
SC How's your resolution down there on the TV,
Bob? It sure isn't any too hot on our monitor.
CC It's hard to tell with clouds.
SC Yeah, I know. Now we got a bunch of
black specks all over the monitor. Are you getting them
also?
CC Affirm.
SC Wonder what they're on?
SC That's interesting.
SC Let me - let's (garble) and get a - -
SC Well, they're obviously not on the lens
because we don't have the lens on, and those spots were on
there the other day.
SC Well, but there's glass in between there. ,
SC Yes, it's the color wheel.
SC No, I'm talking about that whole (garble).
SC Yes, but that's not what those spots are
on.
SC How do you know what the spots are on?
SC Cause the spots were there the other day
when we were operating out the window with the TV lens. Okay.?

SL-II MC893/2

Time: 07:49 CDT, 19:12:49 GMT

6/12/73

SC Something internal to the system.
SC Are you getting those spots on the indoor
shots also, Houston?
CC I'll check on that. I haven't seen them
before.
SC Some on the - out the window that we did
for you.
SC Five seconds the EREP systems crunch.
SC MARK. I need an AUTO CAL on my Mark.
SC Good. 4, 3, 2, 1 -
SC MARK it. 94 MARK, MODE MANUAL.
SC Up, but it's not very good, whatever it
is on.
CC Looks like a lake or river going by.
SC Yeah.
SC It's pretty hazy, Bob, and we can't see much.
Low sun angle, a lot of haze. It's pretty far out. Let's
just track this nadir once and see how it looks.
CC It looks pretty fair.
SC You want me to try to wipe those spots off
from that?
SC Let's not do it now. I'll check it after
the pass.
SC There's no way you're going to get those
spots off.
SC Well, how do you know? It could be on
the glass right here on the view port.
SC It's not. I tell you it was on the outer
window too the other day. I remember playing with it to look
at the ice crystals.
SC Then why don't they show up on the indoor
ones?
SC Because I think they're just getting on
the indoor ones.
CC They're not bothering us.
SC They're bothering me.
SC He couldn't get them off. The color wheel - -
SC It's 10 degrees forward there. Hey, there's
a lousy picture on the monitor. How's yours?
CC It's kind of faded. Looks like not much
light.
SC You're right; there's no color.
SC Okay, that's (garble) right now.
CC Smooth tracking.
SC That's all IMC.
SC Standing by for a 191 READY light in 3 seconds.

SL-II MC893/3

Time: 07:49 CDT, 19:12:49 GMT
6/12/73

SC I have it at 49. 92 is going to
MODE READY on my mark.
SC MARK. In recorder, S190 to MODE AUTO.
At 0392, going to MODE CHECK. At 14, CHECK 14. (Garble)
the altimeter is on. (garble) 32, S190 intervalometer 8.
Ooh, there's a town. Gee, this town looks (garble) 330 of
(garble).
SC There's an airport. You see it?
SC Oh, yeah, I can see it on the monitor.
SC Crip.
CC TV's cutting out on us.
CC We lost on the handover.
SC You there, Houston?
CC Affirm.
SC Okay.
CC Be at your airfield briefly.
SC Okay, I didn't know I got it or not. And
we're going over some overcast cloud level - layer now.
Jet stream cirrus clouds, I can't really tell. That could very
well be what we have here. I got a (garble) nothing look at.
SC You do, and it's going to break up in a
minute over (garble)
SC That's good. Lake Michigan.
SC Lake Michigan is clear.
SC Look at her.
SC Well, let me track Lake Michigan for a
few seconds, Crip. I've (garble) those (garble) quickly.
SC Altimeter to STANDBY.
SC Say again.
CC Clouds look good from here.
SC RAD ON; SCAT's on.
SC Hey, we're doing a good job on the clouds,
huh?
CC Affirm.
CC (Garble) up.
SC Oh, we'll find a way.
SC MARK MEDIUM on S190.
SC Okay, now we want funnel clouds.
SC Whoever is calling these clouds is doing
a pretty good job of it, Houston.
CC Roger.
SC MODE READY. Altimeter went to MODE 5.
SC Oh, that's (garble) MODE READY.
SC There's some pollution in the lower right corner
of your screen there, coming into a lake.
SC (garble)
SC Yeah.
SC This must be - this must be Cleveland.
SC That was the west end of Lake Erie.

END OF TAPE

SL-II MC894/1
Time: 08:00 CDT, 19:13:00 GMT
6-12-73

SC (garble)
PLT How's the west bend of Lake Erie?
SPT There's clouds right at the west end.
Detroit and Cleveland are - look both clear, and the center
of the lake is loud and clear.
CDR SCAT to STANDBY. RAD to STANDBY.
SC RAD's OFF; SCAT's ON.
CDR Awful hazy in the Washington area, Houston.
CC Too early in the morning.
SC A shutter speed flow on 190, 1 minute.
SPT SCAT to STANDBY. RAD to STANDBY.
PLT You can't make out enough detail.
SPT 92 to CHECK. 3A is ON (noise)
SPT Be out over the Atlantic now.
SPT Yeah.
S190 READY out at 04:36. 190 inner velometer to 18. (Garble) for an
CDR Ah-h-h, it's nice and clear out there
as the sun comes up.
PLT I couldn't find Washington; it was
right under the edge of a cloud layer.
SPT Roger. And it was supposed to have been
clear. Yeah.
PLT Yeah.
PLT It's sure frustrating. I can see the
river and that but I couldn't quite find Washington.
SPT I think it was a high cirrus form stuff
combined or (garble), Crip. I just couldn't make out features
on the ground up the river.
CC Roger.
PLT Yeah, it was haze. I took some wide angle
shots of the whole area but I couldn't (garble) very clearly.
CC For us to know steady you can hold the
thing.
SC Oh, yeah. It's easy to track.
PLT Now I'll track this little cloud coming
up here. Why wait? Yeah, we got to wait.
SC It's beautiful.
CC I think you can do that good in the
trainer. It's just about the same, as a matter
SC of fact.
CDR Altimeter to STANDBY, MODE 2.
CDR Somebody ought to look at the S190
calculations they get. A READY light went out a long
time ago.
CC Roger.
SC Altimeter is ON.

SL-11 MC-894/2
Time: 08:00 CDT 19:13:00 GMT
6/12/73

SC Ah-h-h.
PLT You and me.
CDR This is my second coffee.
CC You know you guys could do EREP in your
sleep there.
SC Oh, yeah.
SC I'll tell you, that's the only way to
do it though - is to work this console every day.
CC Right.
SC Your pads are good though ; I got plenty
of time.
CC The planning guys will like that.
PLT Okay, you're the trained one. (Garble)
coming up here now.
CDR Tell you what tickles me is to see all
this gear (garble). Now that we got power in here and
some heat in here, to see all this gear come on just like
it's supposed to.
PLT Yes, everything is working - -
CDR Yes, it's really working good.
CDR The stations are all good now.
CC Roger.
CDR At least from our point of view up here,
it looks like you're going to have good data on that tape.
CDR Probably we wouldn't have had a seven
rod extension there; so 73 on the minus-Z SAL (garble) see, and
we got that. Even with two rods you can see it out the
wardroom window.
CC Ah, so.
PLT We'll take some suitable pictures of it
for the PI.
CDR And speaking of that, the seven rod
extension went very easy. You'd be interested in noting that
the wire bundle had memory in it going out. So I got
about (garble) for the next half of the rods.
CC Roger.
SC Stand by for 839.
PLT Not so many cumuli in the trade winds
today.
CC Roger. We've lost the TV now.
PLT Yeah.
CDR Stand by MODE 3, and bang her back ON
at 54 for 93.
SC (Garble) coming up in nine minutes and zero
seconds.
SC 911 - S190 MODE 1 - -
PLT MARK, 9 minutes.
CC Okay, 1 minute to LOS; Ascension at
13:08.

SL-II KC-894/3
Time: 08:00 CDT 19:13:00 GMT
6/12/73

SC	Okay.
SC	MARK S190 MODE AUTO.
PLT	Okay stand by for another MARK in 10

minutes, MARK in 10 minutes.

END OF TAPE

SL-II MC-895/1

Time: 08:10 CDT, 19:13:10 GMT
6/12/73

PAO This is Skylab Control. We're 6 minutes 45 seconds now from reacquiring through the Ascension Island Tracking Station. And on that EREP pass, we got a look at the continental United States through the viewfinder tracking system, the VTS. A number of the targets were rather difficult to discern. Apparently, a combination of the relatively low light level getting into the TV camera. The field-of-view at maximum zoom, using the 10 to 1 zoom, through the viewfinder tracking system, is 7 nautical miles through the TV. I understand this is reduced by half that, so that the field-of-view is 3-1/2 nautical miles at maximum zoom through the TV looking straight down. And at minimum zoom, the field-of-view through the television would be 35 nautical miles. This EREP pass was on track 61, 61. And among the objectives, as the sensors were turned on over Grand Forks, North Dakota, data was being collected to support studies of wildlife habitat in North Dakota. In the Great Lakes region, principal investigators were looking at hydrologic and cardiographic information. Also, they were gathering natural resources management information over Ohio, and in Maryland, data was being gathered to support environmental studies on Chesapeake Bay and sea-surface features out over the Atlantic. Paul Weitz reported that he was not able to discern Washington, D.C. through the haze. The last weather report we had prior to this EREP pass was that Washington was clear. However, by the time the crew got a look at it through the VTS, apparently it had been obscured, and they were not able to make out the city itself, although Weitz reported he could see the Potomac River leading up to Washington. As this EREP pass continues out over the Atlantic, the crew will be gathering information on tradewind cumulus cloud buildup, and also on weather over the intertropical convergence zone. We're now 3 minutes 50 seconds from reacquiring at Ascension. At 13 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC896/1

Time: 08:15 CDT, 19:13:15 GET
6/12/73

PAO This is Skylab Control, 2 minutes 50 seconds from acquiring at Ascension. And we're receiving a video tape replay at this time. This is a close up view that we're receiving which will show the attachment of the leg bands for the M092 experiment, lower body negative pressure. We'll see, I believe, Joe Kerwin, science pilot, attaching the leg bands to Paul Weitz's legs, prior to closing up the lower body negative pressure device, and partially evacuating it to produce the negative pressure across the crewman's lower body.

PAO The total duration of this television replay will be about 10 minutes. It includes TV 6 and TV 7, which is operations with the lower body negative pressure experiment and also the bicycle ergometer. This replay has the sequences put back in the order in which they were recorded on board.

CC Skylab, Houston. AOS Ascension 6 minutes.
CDR Roger, Houston.
CDR Mark 93A STANDBY. Mark 94 MODE MANUAL,
CDR Forty-five seconds until the maneuver.
CDR 91 READY is on. Ten seconds until maneuver.
Five. MARK it. (Garble) systems STOP.

CDR Okay, tape recorder alfa 5 is reading 70
- is reading 67 percent. 6 7 percent. Six is reading zero.
Bravo 2 is reading 52. Bravo 3 is reading 76. Bravo 6 is
reading 55. Charlie 5 - Charlie 5 is reading 83. Charlie
6 is reading 47. Delta 4 is reading 71. And Delta 5 is
reading 14.

CC Skylab, Houston. Big John and all the
EREP people would like to express their appreciation for
the fine job you guys have been doing and giving them
readouts, and all the EREP passes have been looking real
good. We're going to be going LOS here in about 1 minute,
and we'll see you again at Carnarvon at 49, I guess. 13:49.

SC Roger, Houston. Do you want to do the
condensate malf at that time?

CC That's affirmative.

SC Okay.

SC Friendly tape recorder, (garble)

CC Skylab, if you were calling, that was
unreadable.

PAO This is Skylab Control. That completes
our replay of the TV 6 and TV 7 transmissions. And we're
also LOS. We have a loss of signal through Ascension. We'll
be acquiring at Carnarvon, Australia in about 23 minutes.
At 13 hours 26 minutes Greenwich mean time, this is Skylab
Control.

END OF TAPE

SL-II MC897/1

Time: 08 CDT, 19:13 GMT

6/12/73

PAO This is Skylab Control, at 13 hours 48 minutes. And we're about to regain radio contact with Skylab through the Carnarvon, Australia, tracking station. About 1 minute from now we'll be acquiring signal. The space station now in it's 417 revolution of Earth. And we'll be in acquisition through Carnarvon for about 10 minutes.

CC Skylab, Houston. We're AOS over Carnarvon for about the next 11 minutes.

SC Houston.

SC (garble)

CDR Houston, CDR.

CC Go, CDR.

CDR You know how I hate to be idle, you got a (garble) here. After rocketing around we're in a 2 hour hold for for LBNP venting. So I'm going to do M551 at least up until TV24, and I want to know whether you're going to be finished with the VTR so that I can go get M551-1 out of the way.

CC Checking.

SPT And Houston, the SPT is ready for condensate malf if you are.

CC Roger, Joe. You can go ahead and press with your first step there.

SPT Okay, I'll go to panel 216, and I'm going to go to PRI.

CC Okay.

SPT And I'm in PRI, standing by.

CDR Captain Video doesn't have those dump numbers right at his fingertips.

CC We've got them right there, and the VTR is your's now.

CDR Oh, I love you.

CDR The other thing for the FAO is, if we want to do M553 on our own time, is that permissible?

CC Checking and - Joe, we're going to have to cycle back to OFF and then back to PRIMARY, please.

SPT Okay.

SPT You're in OFF, give me the word.

CC Okay, now to PRI, Joe.

SPT Now you're in PRI.

CDR Crip, while you're working at it, you got a minute?

CC Yes, go ahead.

SC I'll tell you what the discussion has been here, and how about having Flight work up a couple of sentences for you to tell us basically what happens after

SL-MC897/2

Time: 08 CDT, 19:13 GMT

6/12/73

fuel cell shutdown on 165. I think that we are willing to try between now and then when we get the (garble) with power, to knock out on our own as many things as you guys care to add to that shopping list. We'll give them a go as best we can. And I'd like a few words about the general flight planning after day 165 up to day 26 where (garble).

CC Roger. What are you looking for on that message about after fuel cell shutdown? Procedural kind of things we're going to be doing, or what kind of power conservation we're going to be going after or what?

CDR Yes, just a couple of words on that - if we - in other words, is EREP history after that? So forth and so on, you know, few general things like that.

CC Okay. Okay, and Joe if you would go to OFF and then to SECONDARY for us please.

SPT Okay, I'm in OFF. Standing by.

CC Now go to SECONDARY, please.

SC You ready for SECONDARY now?

CC Affirmative.

SPT Okay, you there?

CC Joe, if you would go to OFF for us for a little while again, please.

SPT You are in OFF.

CC And back to SECONDARY, please.

SPT You're in SEC.

CC Okay, Joe, if you could go on down to panel 393 and we can proceed with the disconnecting the condensate hose. Be advised, we may lose our condensate - condensate tank DELTA-P at that point, so you could get a C&W.

SPT Okay.

SPT Okay, Crip, the condensate hose is disconnected at 393.

CC Okay, thank you.

CC And Pete, after you do 551 it's okay to go ahead and do 553. No sweat on it. Corollary guy just wants to make sure you don't forget his SO73 down there though.

PLT We're standing around counting the minutes until we can start SO73.

CC You guys sound like you got time on your hands.

PLT No, we just work fast.

CDR At 73's off and running on time, we have a 1 and 2 recorders on.

CC Okeydoke.

PLT Besides, I want to see if (garble) really works.

CC You know it really works.

SL-11 MC897/3
Time: 08 CDT, 19:13 GMT
6/12/73

CC Ted Mitchell says it does.
CDR Okay, we want to do both of those, 552
and 552. We'll do those on our own time if it's all right
with you guys.
CC Fine and dandy.
CC Okay, Joe. We'd like you to go back to
panel 216 now and turn the CONDENSATE SYSTEMS HEATER switch
to OFF. But before you do that, we'd like to know what's
the status light reading on it.
SPT Okay.
SPT Well the SEC status light is ON and
the temperature is 75. It's come up.
CC Okay, very good. It looks like it's working,
we just probably have a telemetry problem here.
SPT Okay. Want it OFF now.
CC That's affirmative.
SPT It's OFF.
CC Joe, if you don't mind, we're going to
be coming up on Guam in about oh, 14:02 and what we'd like
to do is leave that condensate hose disconnected until that
point. Let us give you a call to check it.
SPT You bet.
CC Okay, fine.
CC And we are 1 minute from LOS; Guam at
14-02.

END OF TAPE

SL-II MC-898/1

Time: 0900 CDT, 19:14:00 GMT

6/12/73

PAO This is Skylab Control at 14 hours Greenwich mean time. About 1 minute and 50 seconds from reacquiring at Guam. And we'll have a briefing on the Earth resources experiment package, this morning in the JSC news center briefing room. That briefing is scheduled to get underway shortly. Also, we are planning to have a change of shift briefing. And we do not have an estimated time on that change of shift briefing. However, it does appear likely that the change of shift briefing and the EREP briefing will be melded together at some point with flight director Neil Hutchinson, coming into the News Center briefing room to brief on the shift that he has just left as soon as he is able to leave the control center and will also during the time that the EREP briefing is taking place, take down the release line, record any air-to-ground conversation with the crew for playback following that EREP briefing. We are now about 1/2 minute away from reacquiring at Guam and we will standby for acquisition at Guam, be prepared to switch to the briefing on EREP as soon as that is ready to get underway in building 1.

CC Skylab, Houston. We're AOS over Guam now for about 10 minutes.

SPT Hello, Houston.

CC And Joe, at your convenience you got a GO to go back to panel 393 and reconnect the condensate hose to the dump 4. It looks like we got a slow leak through that qd.

SPT Okay, that should work.

SPT Say, Crip, should we Delta-PR on 216 has dropped to about 3.7 and it's up to 4.0 again.

CC Up to 3.7 and back to 4.0.

SPT Houston, SPT.

CC Go ahead, SPT.

SPT Did you ever get any work about the radio noise (garble) for a couple of days?

CC Joe, I'm informed that on your ATM schedule pad that they did schedule that for today.

SPT Oh, you're right.

CC Rog. They go (garble)

SPT Okay.

CC Joe, I got a small update for your solar activities pad. Would you like to get that now, or get it later or when you're on the console?

SPT I'm getting ready to go on the console right now, so let's have it.

CC Okay. Active region 27 produced a subflare at 0207 Zulu, and that region apparently is growing rapidly. We had a very unusual bright surge occur on the left limb at 01/1, at 0750 Zulu.

SL-11 MC-998/2
Time: 0900 CDT, 19:14:00 GMT
6/12/73

SPT Okay, copy. Man, that's up near the pole.
CC That's what it looks like to me, I don't
know why they call that west limb.
SPT Well, we've got nothing out there in the
way of an active region either.
CC Let me check that (garble) on that.
SPT Okay.
CC SPT, Houston. Those coordinates I gave
you were correct and apparently it's unrelated to anything that
we're seeing right now on the disk.
SPT That's why it's so unusual. Incidentally,
I put E channel the other night that I thought I had observed
a subflare in active region 27. That was night before last.
I wonder if we had any confirmation or denial on that.
CC Okay, I will get them to check that out for
you. We're about 1 minute from LOS Goldstone at 14:28.
PAO This is Skylab Control, at 14 hours
14 minutes Greenwich mean time. Now we have loss of signal
through Guam and we will be reacquiring at Goldstone, California,
in about 13 minutes. The EREP briefing is ready to begin at
this time in building 1 and we will switch to that briefing at
this point.

END OF TAPE

SL-II MC899/1

Time: 10:09 CDT, 19:15:09 GMT
6/12/73

PAO This is SKylab Control, at 15 hours 9 minutes Greenwich mean time. Skylab at this time is over the South Atlantic passing beneath the Cape Hope African Continent and about 55 minutes away from reacquiring at Goldstone, California. During the EREP briefing we accumulated about 9-1/2 minutes of tape conversation which we'll replay for you. We have cancelled the change of shift briefing. During the previous shift the major activity was flight planning for the next two days and also trouble shooting the S054 experiment door, which earlier in the mission appeared to have jammed. During the EVA the crew removed a pin and opened the door so that the experiment can be operated. During the trouble shooting tests that were run during the night, it was determined that the gear drive mechanism which activates the door has in fact jammed. It was hoped that the logic connected with this door opening could be cleared so that the crew could get the proper indication of the experiment's readiness to operate. However, this was not possible once it was determined conclusively that the gear drive mechanism was jammed. The major impact on the experiment is that the door cannot be opened and closed. It is in the fixed open position and the primary purpose for the door is to protect the experiment from contamination. However, the experiment is continuing to operate satisfactorily with the door in the open position. Two additional EREP passes were planned in a preliminary fashion during the previous shift. Day 164 and day 165 EREP passes, and these are the final two EREP data gathering passes planned for Skylab II. Also, the previous shift developed some of the procedures that were to be used on the present shift in trouble shooting the secondary coolant loop, the airlock module secondary coolant loop. During the EREP briefing while the crew was in acquisition with Mission Control through the United States, a trouble shooting procedure was initiated with the secondary coolant loop. As had been planned, the secondary coolant loop was shut down yesterday after the temperature control valve failed to modulate as desired and the loop began to cool off rapidly. The loop was allowed to warm up for about 24 hours. And this morning over the Continental United States a command was sent from the ground that activated both pumps, providing a flow rate of about 400 pounds per hour, or a little more. This is about twice the normal amount the loop would see, and as a procedure similar to that that was used successfully with the primary loop to free the sticky temperature control valve. The procedure also appeared to work for the secondary loop and the data that we got over the Continental U. S. pass

SL-II MC899/2

Time: 10:09 CDT, 19:15:09 GMT
6/12/73

and also over the Vanguard tracking ship, it appeared that the temperature control valve was controlling in the desired 47 degree Fahrenheit range. We'll continue to look at that to assure that the valve is modulating properly and controlling the temperature within that range. But the preliminary indication is the procedure has freed the valve and the secondary may be operating normally. We'll replay now the accumulated tape, about 9 minutes 30 seconds of communications with the crew over the Continental United States and the Vanguard tracking ship.

CC Skylab, Houston. We're AOs over Goldstone for 17 minutes, 17 minutes.

SC Roger.

CC And be advised, we're getting ready to turn the secondary coolant loop on once more and you'll get a set cool of flow light if that's ENABLE.

SC Okay. (static)

SPT (garble) white light coronagraph (garble)

CC Joe, I'm sorry you were breaking up, say again please.

SPT Are you ready for a white light coronagraph TV downlink now or you want to wait?

CC We need to wait for about 6 minutes on that apparently, Joe.

SPT Okay. Meanwhile the CDR is setting up for VTR.

SPT On M551 if you want that.

CC Okay, I - problem I guess is on the ground station to pick it up. We're waiting - we've got Mila configured.

SPT Okay.

SC Hey, Houston.

CC Go.

SC Fiddling with the focus ring on the TV optical adaptor on the VTS, I couldn't see any difference in my monitor. I guess if we run that again I would like to - cue from you - go ahead and run that focus ring from 1 extreme to the other to see if you guys can see any difference in the picture on the ground.

CC Okay, we'll take that under advisement in case we get to run it again.

SC All right.

CC And Skylab, we're being held up slightly on turning that secondary coolant loop on because of a data problem.

SC Roger.

SC Are we going back to bed?

NL-II MC899/3

Time: 10:09 CDT, 19:15:09 GMT

6/12/73

SC We're supposed to but the skipper won't
let us.

CC Skylab, Houston. You may be aware we have
turned on your secondary coolant loop now, and we're standing
by for the TV downlink which I believe you got white light
coronagraph scheduled for now.

SC Okay, it'll be a couple of minutes because I
went ahead and started JOP 6 (garble).

CC Okay, that's okay. We've got Pete
on right now with 512.

SPT Houston, Pete says he's got about 4 or 5
minutes set up to do here. You want it live, or do you
want him to hold?

CC Stand by 1.

CC Roger, Joe. As soon as you get a chance
we'd like to get the white light corona graph live or all the TV.

SPT You were cut out. Please repeat.

CC Roger, Joe. We're standing by for your
ATM TV downlink. We'd like it live.

SPT Okay.

CC Okay, we've got 52 now.

SPT Okay, that's in Roll minus 5 - minus 10,800.
I'll be rolling the 5400 in a minute.

CC Skylab, Houston. If anybody has an opportunity
we'd appreciate it if they could turn off SUS 2 on panel 217.

SPT In a minute, Houston.

CC Okay, no rush on it.

SPT It's off, Houston.

CC Joe, I might have been confusing you a while
ago on that TV. We'd like you to go ahead and cycle through
it, like you normally do.

SPT Everybody wants to see, huh.

SPT I want to give you the coronagraph on the
right roll.

CC Okay.

CC Skylab Houston. Right now the secondary
coolant loop is looking good. We'd like to ensure that the
secondary coolant temp low caution and warning is enabled and
we're going to let you go ahead have it and leave it on after
we go LOS. And if you get that caution and warning, we'll
want you to turn the secondary coolant loop off.

SPT Copy.

CC It's really wild when you've got it in
integration.

SPT (garble) sound is sure a big help
with 2.

SL-II MC-890/4

Time: 10:09 CDT 19:15:09 GMT
6/12/73

SPT And for the whole thing, 52 peoples in-
formation the pointing numbers at which that display was
optimized was right 25 and up 5.
CC Right 2 (garble) 5 and up 5. Thank you.
SPT Okay.
SPT Actually on fine scale, that looks like
right 32 or so.
CC Okay.
SPT And active region 27 is the brightest
thing on the sun in H-Alpha this morning. And it looks much
more complex and has several spots visible on the (garble) to
be exact. On the XUV monitor white light display active region
31 looks pretty diffused, not nearly as bright, not as inter-
esting. And 37 is coming around the horn with 2 big spots,
a couple of dark filaments, and some bright red compact
plage and it looks good too.
CC Roger and we've got a sight down here to
concur with your discription. Thank you very much for a
very good discription.
SPT Okay.
SPT And Houston, Pete says he is going to put
his show on the VTR now if that's okay.
CC Rog. And we did command that VTR off from
here. So you or Pete is going renable it or somebody up
there.
SPT Okay.
CC Skylab, we are 1 minute from LOS. See
you again over the Vanguard at 14:55, 55.
SPT Rog.
CC Skylab Houston. We're AOS over Vanguard
for 6 minutes.
PLT Roger.
CC SPf Houston. There is a possibility that
we might need a couple of TACS nib for this upcoming dump
operation, and we'd like you to turn the TACS back to enable
for this one dump only.
SPT Okay.
CC And Skylab for your information, we have
turned off pump Charlie on the secondary loop. We have been
hitting it with both Bravo and Charlie. And it is still
looking real good to us.
SPT Very good.
CC Also Skylab, we show that experiment 1
and 2 tape recorders are still operating after the S073.
To save us a little bit of dump problems, we would appreciate
it if you would secure them until they're required for M092.
SPT Okay Houston.

SL II MC900/1

Time: 11:02 CDT, 19:16:02 GET
6/12/73

PAO This is Skylab Control at 16 hours and 3 minutes. We're standing by to receive contact through Goldstone, California. The spacecraft is now on the 419 revolution, rather the 418 coming up on the 419. And we also got a report from INCO, the instrumentation and communications officer, that there is no plan at this point to bring back television of M551. The crew was putting that activity on the tape recorder. On the last pass, however it would not be possible to get the entire tape load brought back to the continental US station today. The plan at this point is to bring back the entire load of video tapes and get it transmitted to the ground during the early morning hours and bring it in tomorrow. And we had the call to the crew. We'll stand by for that conversation.

PAO The environmental systems engineer or EGIL has taken a good close look at telemetry data on the secondary coolant loop, and that continues to appear to be functioning normally. The temperature on the secondary loop running right around 47 degrees Fahrenheit.

CC Joe, we need to tweak up the C3 biases a little bit and if you would stay off the DAS for about a minute we would appreciate it.

SPT Okay.

CC Joe, the DAS is yours again?

SPT (Garble)

SPT Houston, SPT.

CC Go ahead, SPT.

SPT I was wondering if you guys have a testament for me of the current solar ambient radial light.

CC We'll check it.

CC SPT on your solar activity pad, they put down a number of 130, and we believe that's still good.

SPT Okay.

CC Skylab, Houston. We're 1 minute from

LOS. We'll see you again over the Vanguard at 16:29 and we will be doing a data recorder dump over Vanguard.

PLT Roger.

END OF TAPE

SL-II MC-901/1
Time: 1119 CDT, 19:16:19 GMT
6-12-73

PAO This is Skylab Control. We'll acquire again through the tracking ship Vanguard in 10 minutes. And there will be a long silent period back around to - the Goldstone, Tex - or Goldstone, California, station, which will be our last stateside acquisition for today. Again the secondary coolant loop appears now to be functioning normally along with the primary loop. And so that we have two good loops, now we are in the nominal or normal configuration on both loops, both of them controlling temperature right around 47 degrees. At 16 hours, 20 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-899/5
Time: 10:09 CDT 19:15:09 GMT
6/12/73

CC Thank you.
CC Skylab, we're about 30 seconds from
LOS. We'll see you again over Goldstone at 16:04, 16:04.
SPT Au revoir.
SPT And Houston, if you read, Pete says he's
not getting any reading on the filament chamber pressure
meter. Would you look at that or think about it for our
next pass.

CC Roger, understand you're not getting a
reading on the filament chamber pressure on 512.

SPT That's right.

SPT It shows zero work chamber pressures.

CC Rog.

PAO This is Skylab Control. That completes
our tape replay. It brings us up to date with the conver-
sations with the crew through Vanguard. And we're about
41 minutes from reacquiring at Goldstone. As you heard in
that conversation, Pete Conrad requested and received per-
mission to get up to begin experiment M551 early. And he
reported that there was no indication of filament chamber
pressure. The corollary experiments officer is checking
on that report, looking at data to evaluate the situation
and see how we stand with respect to that experiment. We
did not yet have a report on the status of the experiment.
M551 is metals melting and alloy behavior experiment, deter-
mining how metals have behaved when melted in zero g, how
various alloys behave. And we're also getting television
of the activation of that experiment. Pete Conrad was op-
erating the M551 equipment and recording that operation on
the video tape recorder as we acquired at Goldstone. As that
TV is placed on the tape recorder, it is also dumped when
we're in acquisition at a stateside station. Coincidentally,
we had lines up to Mila at that time for an ATM television
dump, and as we acquired at Mila, the TV that was going on
the video tape recorder was also fed back into Houston live
and was fed out on the lines at that time. As the crew
switched over to begin feeding the ATM video, of course we
lost the picture of the M551 activity. Conrad then went back
after loss of signal and resumed loading up the video tape
recorder with the M551 activity. And we would expect to
see the entire television of M551, TV 24 as it was
planned. INCO is looking into the possibility of bringing
that TV back to Houston, or at least a portion of it during
the next stateside acquisition, which is Goldstone - Texas
on this revolution. However, it appears at this time that
the amount of TV that we could get back would be relatively
small, on the order of 10 minutes. We'd expect about 20 min-
utes of television to have been accumulated at that time. So in

SL-II MC-899/6

Time: 10:09 CDT 19:15:09 GMT

6/12/73

event, we will not have the entire load of video tape back during this series of stateside passes. And we would expect to have to bring the remainder of it back early tomorrow morning, when we again have Goldstone - Texas - Mila acquisition. We'd like to repeat also the changes in the crew sleep and awake times as we begin changing the crew work day, in preparation for the entry activities. On day 165, the crew will work a 14 hour day and will go to bed 2 hours early at 01:00 Greenwich mean time. They'll sleep for 7 hours and on day 166 they will wake up 3 hours early, at 08:00 Greenwich mean time. On day 166, they will have a 15 hour work day, and they will go to sleep an additional hour early at 23:00 Greenwich mean time, so that their sleep time will then have moved a total of 4 hours early and they will wake up the following morning on day 167 at 07:00 Greenwich mean time, which will mean that their wake up time has moved a total of 4 hours early, beginning with day 167. The work day will then run from 2:00 a.m. until 6:00 p.m. We're now 35 minutes 40 seconds away from reacquiring at Goldstone. Fifteen hours and 29 minutes Greenwich time, this is Skylab Control.

END OF TAPE

SL-II MC-902/1

Time: 11:27 CDT 19:16:27 GMT
6/12/73

PAO This is Skylab Control at 16 hours 28 minutes. Skylab now approaching the Vanguard tracking ship off the coast of South America. We're about 1 minute away from resuming contact with the crew through the Vanguard. And according to the flight plan, Commander Pete Conrad and Pilot Paul Weitz at this time should be involved in M092, M171 medical experiments, with Science Pilot Joe Kerwin drawing the ATM experiment duties. And those activities will continue until lunch time for the crew. We gather that they are running somewhat ahead of the timeline, at least Pete Conrad, and Pete advised on the last revolution that he was activating the metals melting experiment, M551 early. Pete also gave us one call that indicated a possible problem with the M551 experiment, and after evaluating his description of the situation, however, the corollary experiments officer reports that he does not feel there is a problem with that experiment and it simply was a matter of waiting until it reached the proper pressure conditions before beginning -

CC Over Vanguard for 10 minutes.
CDR Roger.

PAO And we have a video tape replay of this morning's television transmissions coming out now on the release line. This is a replay of TV 6 and 7, which is the M092, M171 activities with Joe Kerwin, Science Pilot, as the observer, and this particular bit of TV, Paul Weitz as the subject in the lower body negative pressure, and on the bicycle ergometer devices. And the biomedical officer reports that telemetry shows Kerwin has just turned on the equipment for the M171, M092 experiments on board.

PAO The current television replay will last a total of about 29 minutes. That will include all of the television received in Houston today. With the TV 6 and 7 activities, lower body negative pressure unit, and the bicycle ergometer coming first, followed by the viewfinder tracking system TV during the EREP pass. And at the present time we're seeing Science Pilot Joe Kerwin attaching the legbands to Paul Weitz's calves. These are the bands that are used to determine leg volume, one a calibrated band, the other a band that is compared with the preflight calibrated band to determine how much, if any, the leg volume has changed.

PAO This is a very quiet pass over Vanguard. There's been virtually no communications with the crew. The biomedical officer reports that they are now into the M171 experiment. That information arrived from telemetry. And in our TV replay, we've just seen Joe Kerwin open the valve

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Time: 11:27 CDT 19:16:27 GMT

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that evacuates or partially evacuates lower body negative pressure in the chamber, placing negative pressure on the subject's lower body. The subject again, in this case, Paul Weitz.

CC Skylab, Houston. We're 1 minute from LOS. We'll hi you again at Goldstone at 17:44, 17:44 and we will be doing a data recorder dump over Goldstone.

CDR Okay, Houston.

PAO Skylab now out of range of the tracking ship Vanguard. And about an hour and 5 minutes away from acquisition at Goldstone, California, and that'll be the last Goldstone acquisition for today. The next revolution after that - the only two stations to acquire will be Hawaii and the Vanguard. And in our video tape replay now, we see Paul Weitz on the bicycle ergometer --

END OF TAPE

SL-II MC-903/1

Time: 12:42 CDT 19:17:42 GMT
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PAO This is Skylab Control at 17 hours 43 minutes and we're about to acquire for a short pass over the Goldstone, California tracking station. It will be about a 3 minute 45 second acquisition. And then down across Vanguard, the only two stations acquiring this revolution. The spacecraft now in it's 419th, coming up on 420th revolution. During this acquisition or over Vanguard, we'll be discussing with the crew further Pete Conrad's earlier remark that he may have a problem with the M551 experiment. Conrad noted that the pressure had not reached the desired level, and asked for recommendations from the ground. After reviewing the situation here and talking with investigators at Marshall Space Flight Center, we've reached the tentative conclusion that it may take longer than anticipated to evacuate that chamber.

CC - Houston, we're AOS over Goldstone for about 3-1/2 minutes.

SC (garble)
CC Roger. And if the CDR's available, we'd like to ask regarding that M512 facility if he ever looked at that filament chamber pressure again.

SPT It was just very slow coming on line, but it did come and he's welding right now.

CC Understand it's welding now.
SPT That's affirm. He had a outgas for 2 hours he said.

CC Okay.
CC And Joe, we copy that you're in one frame per minute on H-Alpha (garble)

SPT Okay.
PAO And judging from the crew's report there, it appears that the corollary experiments people and investigators at the Marshall Space Flight Center called it right, on the M512 facility being used for experiment M551. They felt that, given enough time, the chamber would come down to the desired pressure. Conrad confirmed that was the case, that it took 2 hours to get the chamber evacuated down to the desired level of vacuum. And it is welding at the present time.

CC Skylab, Houston. We're about 30 seconds from LOS. See you again over Vanguard at 18:06.

CDR Okay, Houston, CDR. We got a good weld on. It looks very good from outside the chamber.

CC Roger.
PAO This is Skylab Control. That's all through Goldstone, and we'll be acquiring at the tracking ship Vanguard in about 16 minutes. At 17 hours 50 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-904/1
Time: 13:04 CDT 19:18:04 GMT
6/12/73

PAO This is Skylab Control at 18 hours 5 minutes Greenwich mean time. We're about to acquire at the tracking ship Vanguard. And during this pass over Vanguard be getting a good look at the primary and secondary coolant loops. Both appear to be now functioning normally. The crew is to be advised to remove the LCGs from the circuit on the secondary loop. These have been - liquid cool garments have been drapped over the water tank, which received a fair amount of heat and was being used to assist in warming up the secondary loop. And now that that loop appears to be functioning normally, the LCGs are being removed and we'll continue to look at it in that mode of operation for a period of time. There will be some additional tests run over the next day or two to verify the loop, in a variety of modes, particularly those that would be used for an EVA. And we have acquisition of signal now over Vanguard.

CC Skylab, Houston. We're AOS over the Vanguard for 10 minutes. 10 minutes.

CC Joe, we show that you're in mechanical reference still, from the previous rev, and we should have it in optical.

SPT (garble) I'm doing a grating scan right now -

CC Yeah, yeah.

SPT - - so it really doesn't matter and I'm still working (garble) in the limb. I'll switch back this next side. Okay?

CC That's fine. And before you leave the panel on this pass, if possible, I'd like to give you some ATM schedules. Pad mods for Paul coming up.

SPT Go ahead.

CC Okay, if you can get his 1901 pad at 41 for the bright spot, he needs a pointing update, and I've got it here.

SPT I'm with it.

CC Okay. It's roll minus 9300. Right plus 500. Up plus 225.

SPT Roll minus 9300. Right plus 500 and Up plus 225. I did read that right, (garble) write the pad in the opposite sequence.

CC Okay, sorry about that. Yeah, you did read back correctly.

SPT Okay.

CC And if you've still got time, I need to give you some info on Building Block 15 scheduled at the 20036. That's 20036 pass and the 2207 pass.

SPT Go ahead.

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CC Okay. 82B is worried about getting a camera jam if the - if determined by the door shutting, and so about 15 seconds prior to terminate, we would like you to stop (garble)

SPT I'll be right back.

CC Okay, is that clear that it's supposed to be on both of them.

SPT Yeah.

CC And the CDR would probably be pleased to know that we've got a GO for him to remove the LCGs and the LSUs he's got strung out there. We're in good shape now.

CDR Great. Listen C24 Alpha Bravo Charlie is on the VTR and is already dumping, and you won't get 24 Delta until sometime between 20:00 and 21:00. Okay?

CC Roger 24 Delta between 20:00 and 21:00.

CDR That's right. That's the removal of the metals, and it comes 2-1/2 hours after the weld.

CC Okay. And I guess we understand it takes about 2 hours to vent that thing down. Is that correct?

CDR Oh, it took about 2-1/2 hours to out-gas it.

CC Okay.

CDR I'll have to see what happens the next time. It may have been like the motor and a few things like that, which may not pick up so much when - now.

CC Okay. And while I'm talking to you here. Joe had asked earlier to get a GO to modify the PLTs M092 run. I've got a concurrence here that 30/40/40 is okay.

CDR Okay. Crip, the pressure that I finally achieved was just about point 1. It never got down to .01. We did all our welding right around .1. It took 2-1/2 hours getting there. Now, I don't know whether that's the gauge or what. I find it awful hard to believe that a 4 inch opening to a vacuum like that, we weren't right down there right away, but it could be outgassing, but gosh that's a big opening.

CC Okay. Was it - did it go up significantly while you were welding?

CDR Yeah, it crawled up around .2, something like that, then it dropped back down to .1 again. The gauge is operating. There's no doubt about that, but I don't think we got any leakage into the chamber from the spacecraft, not that I can tell. I made sure the hatch was bolted down real good. That's about as best I can do.

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CC Okay.
CC Rog, Pete, and for your information,
that gauge is inside of a 3 quarter inch opening, so it
takes a little bit longer to go down.
CDR Okay. That was a lot (garble) though
I still say 2 hours for it to come down to .1 is -
CC Rog. Concur. That sounds excessive.
CDR That sets our vacuum to fill (garble)
than what we got up here, and that I doubt very
seriously.
CC Rog.
CC Skylab, Houston. We're 1 minute from
LOS. We'll see you again over Hawaii at 19:15, 19:15, that
is if we don't wash away first.
CDR You say it's raining there a little
bit?
CC That's an understatement.
CDR Rained yesterday, too, huh?
CC Affirmative.
SPT Pete wants to know if there's water in
the third floor up there yet.
CC We're on the second. It's been coming up
this high, I think.
SPT Okay, we'll fix it.
CC I know you guys fix anything, but I
don't think you can work it from that long a range.
SPT Listen to this: Rain, Rain go away,
come again another day. See if it don't sunshine tomorrow.
CC Okay.
SPT Yeah, see if it don't.
PAO This is Skylab Control. We're now 57
minutes away from our next station, which will be Hawaii.
The spacecraft in the 420th revolution of the Earth. And
this afternoon the crew among other things, scheduled to
perform the M092, M171 experiments. And also continuing
with ATM, Apollo telescope mount operations. One correction
on that. The M092, M171 scheduled for this morning and that
should be completed by now. Primarily ATM S073 and the
next run on M551 for the major activities in the flight
plan this afternoon. At 18 hours 19 minutes Greenwich
mean time, this is Skylab Control.

END OF TAPE

SL-II MC-905/1

Time: 14:13 CDT 19:19:13 GMT
6/12/73

PAO This is Skylab Control Houston at 19 hours 13 minutes Greenwich mean time. The space station is approaching the Hawaii tracking site, on this the 420th revolution. We're about a minute and a half away from acquisition. And we'll stand by for radio communication between ground and crew.

CC Skylab Houston. We're AOS over Hawaii for about 9 minutes.

SPT Roger Houston. Hey Crip, a little quick confirmation if you could please on this JOP 1 Delta. I went to the coordinates you gave me and it's nothing. I mean there's nothing in HL, but there's nothing in the XUV. I just wanted to verify, first the coordinates, if those are correct. Then I want to verify if they really want me to run this Building Block there. I'm using a roll of minus 9300, up plus 225, right plus 500.

CC Those were coordinates that I read up to you. Let me reverify them with Adam.

PLT Okay, I got to start soon.

CDR And while you're doing that Crip, I got something for you.

CC Go ahead.

CDR Do the M151 for the S073 retract at stowage? The retraction part is assumed that the S073 is at a plus Z SAL, and of course it's not; it's in the minus Z SAL. Do you want me to change those camera angles a little bit to get the retract'ion and then move them back to the original one to get to stowage?

CC Stand by one.

CDR Thank you.

CC Paul, recorder talk direct, and we do want you to go ahead and run it. We claim we can see something here in XUV from the ground.

PLT Okay, we can't see it onboard, I'm last.

CC Okey doke.

CC And we need a JOP and 1 frame per minute, I believe it is in 4 now please.

CC CDR Houston. Regarding the M151 settings, if you're using the 5 millimeter lense, and the F/10 setting, and you don't think that will work, make whatever adjustments you think are necessary.

CDR Okay, thank you.

CC Skylab Houston. We're about 30 seconds from LOS. We'll see you again over the Vanguard at 19:45, and we will be doing a data recorder dump at Vanguard.

PAO Over the Hawaii tracking station, the flight controllers in Mission Control heard from the guidance

CL-II MC-905/2

Time: 14:13 CDT 19:19:13 GMT

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navigation and controls systems officer who reported that his systems looked good, looked good over Hawaii. G and S, as he is called, is responsible for monitoring and troubleshooting the Saturn workshop orbital assembly guidance propulsion systems control. And he also has the responsibility for monitoring the command service module systems, when the CSM position is not manned. We'll next acquire the space station in 19 minutes over the Vanguard tracking ship at 19 hours 25 minutes Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-II MC-906/2

Time: 14:43 CDT, 19:19:43 GMT
6/12/73

specimen at a speed of about 2.5 revolutions per minute. This is done in a container called a metal processing experiment facility. The melting experiment is carried out like a conventional welding test. That is the electron beam traverses along metal plates, and those plates are of varying thickness in this vacuum chamber. And the beam melts the metal to varying depths along its track. As the beam moves, the melted metal behind it solidifies very rapidly. Motion pictures are taken of this melting process and the film will be returned to us for analysis by the principal investigator and his assistants at the Marshall Space Flight Center. Three different metals are to be used in the melting experiment. One of them is an aluminum alloy, another is a stainless steel type of metal, and another is a nickel, it's identified as thoria dispersed nickel, a nickel-type of metal. At 19 hours 57 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-906/1
Time: 14:43 CDT 19:19:43 GMT
6/12/73

PAO This is Skylab Control, Houston. Nineteen hours 43 minutes Greenwich mean time. One minute from acquisition at the Vanguard tracking ship. We'll stand by for communication with the crew through the Vanguard site.

CC Skylab, Houston. We're AOS over the Vanguard for 9 minutes and we'll be doing a data recorder dump.

CC CDR, Houston. You got a moment to talk about S073 operations?

CDR Sure have.

CC Roger. We apparently didn't get a calibration on the last program that you ran for us and we wanted to verify for this one coming up on the program one Dog that you were going through steps 5 through 7 on page 8-13.

CC And those should be -

SC (garble)

CC Unable to read you due to feedback.

CDR That's 8-13 right?

CC Rog.

CDR Steps what?

CC Steps 5 through 7, well actually, 5 through 8 I guess would be more complete.

PLT Say, Crip, I was going to use the VTR in about 10 minutes, is that all right?

CDR Okay, Crip, I didn't catch that the last time.

CC Rog. You understand the (garble) Pete?

CC PJ, you got a GO on the VTR.

PLT Okay.

CC Skylab, Houston. We're 1 minute from LOS. See you again at Hawaii at 20:52, 20:52.

SC All right.

CC Bye.

PAO The Skylab space station has passed out of range of the Vanguard tracking ship. Out over the South Atlantic Ocean. During this pass and during a part of the pass over Hawaii, previously, the Commander Pete Conrad was conducting an experiment identified as M551, or the metal melting task. The principal investigator for this experiment is Robert Hopps of the Marshall Space Flight Center. Objectives of the experiment are to study the behavior of molten metals in a microgravity condition. Also, to characterize the structures formed in metals melted and that later rapidly solidify in a zero gravity state. And the third objective is to test means of joining metals by an electron beam welding process in zero gravity. The equipment that was used, or that is being used for the melting experiment, consists of an electric motor, a mechanism which drives a disc-shaped

SL-II MC-907/1
Time: 15:50 CDT 19:20:50 GMT
6/12/73

PAO This is Skylab Control at 20 hours 50 minutes Greenwich mean time. About a minute from acquisition at the Hawaii tracking site, on the 421st Skylab revolution. We'll stand by for air to ground.

CC Skylab Houston. We're AOS over Hawaii for 8 minutes.

PLT Roger.

CC And Skylab, we need to update your X3 rate gyro. So if you'd stay off the DAS for a minute we'd appreciate it.

CDR Okay.

PLT Crip, another hang up on S056 in active 1 long. The details are on Channel B.

CC Rog. Was that a filter hang?

PLT I guess. It quit counting, showed an operate light and it's just staying in Filter 1.

CC Thank you.

CC Skylab Houston. The DAS is yours once more.

PLT Thank you.

PLT This XUV is on the tape, and a little coronagraph also.

CC Rog.

CC Paul, just a little reminder on that Building Block 15 you've got coming up at the end of this pass, we did want to shut down 82B 15 seconds prior to sunset. And we're going LOS in about 1 minute. See you again over Vanguard at 21:53, 21:5, correction, 21:23, 21:23.

PAO We've had loss of signal through the Hawaii tracking station. The space station will again be acquired at the Vanguard site in 23 minutes. At that time, we'll have about a 10 minute acquisition period. At 21:00 hours Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-908/1

Time: 16:22 CDT 19:21:22 GMT

6/12/73

PAO This is Skylab Control at 21 hours 22 minutes Greenwich mean time. We're about a minute away from acquisition at the Vanguard tracking station. And we will be in communication for about 9-1/2 minutes through Vanguard. We'll stand by for any radio communication between the crew and the Control Center through Vanguard.

CC Skylab Houston. We're AOS over the Vanguard for 9 minutes.

SPT Roger.

CC Skylab Houston, 1 minute to LOS. See you again at Ascension at 21:38, and we'll be doing a data recorder dump at Ascension.

PAO The Skylab space station has moved out of range of the Vanguard tracking ship. We'll be in contact again through the Ascension Island tracking station in about 5 minutes. So, we'll keep up the line for the subsequent air to ground that will be transmitted through Ascension.

END OF TAPE

SL-II MC-909/1

Time: 16:34 CDT 19:21:34 GMT
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CC Skylab, Houston. AOS Ascension 7 minutes.

CDR Roger.

CDR Houston, CDR.

CC Go, CDR.

CDR On So73, when I put those rods in, they were extremely cold and as you would expect, they collected a good deal of moisture on them and I wiped them down with a - with just a (garble) Is there anything down there special that those guys want done to those rods before I stow the thing, later on?

CC We'll get corollary to check that, Pete. While I'm talking to you, on your M512 facility, since that filament chamber was closed and set off separately, it should be basically maintained at vacuum, but we don't anticipate any problem when you go back up to run your next procedure.

CDR Surprise. I think there's a leak in it.

CC Oh, oh.

CDR Because it was at atmospheric when I started again. That's probably our problem.

CC Okay.

CDR Now, let me tell you something else that I didn't have a chance to tell you today. I can't account for this, cause I know that it was fit about 10 times, but the mirror over the electron gun would not fit today because the electron gun must have shifted during launch. That's the only thing I could think of. Now is there any way that thing can move around in there, or move on its adjustment. Because the mirror, I got the mirror on. You can see through it okay by just using one screw, but it lacks fitting by a good eighth of an inch to the other screw, because it interferes with the electron gun. And the only thing I can conclude is that the gun shifted during launch. However the pointing was relatively good, which leads me to conclude that it was there in the first place, but I know it was fit checked.

CC That's affirm. It was fit checked and you're saying that it looks like the electron beam gun has shifted? You can only get the mirror on with one screw? And I take it from what you said, you think you can operate it like that.

CDR Oh, I've welded a plate okay. It's all right. But I think it got moved. That's the only thing I can account for it by. We took photographs on it.

CC

Copy.

END OF TAPE

SL-II MC-010/1

Time: 16:41 CDT 19:21:41 GMT

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CC CDR Houston. I'd like to clarify one thing. It was the filament chamber you're saying it leaked back up, and not the work chamber.

CDR Right, the filament chamber. When I, when I opened the valve it was at after I pulled the - I got the second specimen in there now. And as you surmised I figured well when I open up the filament chamber I'll be in business, then I can go right at it. And low and behold when I opened it up, chamber being at zero, work chamber being at zero according to the work tape brigade the filament showed atmospheric again. And it is slowly bleeding down, it's down to about 2 right now.

CDR .2

CC Roger. I'm sure we'd be interested in hearing about how long you think it has taken it to leak down.

CDR Well, let me go look at it. I opened it about 15 minutes ago. Let me show you where it is.

CC Okay, I don't think it's worth a special trip. But get all that information for time line purposes.

CDR Well, we like zinking up and down in the spacecraft.

CDR Say Crip, it's .5 right now. It's been about 20 minutes. And I might be a little suspicious of the gauge.

CC Okay, .5 after about 20 minutes. And for your information wiping down and stowing of the rods is okay. We're 1 minute from LOS, and we'll have you again at Guam at 22:23, 22:23.

CDR They weren't kidding about that stuff getting cold, I'll tell you. I had my gloves on when I started to bring them in and I thought that's kind of foolish, so I got to make a second run and man, they were really cold the further I went.

CC Rog. Understand the gloves are recommended?

CDR Yes sir, they are a necessity, and I had them on to start with, it wasn't bad until I got about 2 rods in and how cold it was going to get because the near rods weren't so cold, but the far rods were extremely cold.

CC Roger, thank you.

CC Skylab, we have sent the flight plan up. We had some problems with transmission. Like you to check and see if it looks okay, and tell us on the next pass whether we need to send it again.

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CDR

Okay.

PAO

We have had loss of signal with the space station through the Ascension site. Part of the conversation that was on this current air to ground pass had to do with that M551 metal melting experiment. And you heard the Commander say he thought the electron gun had shifted approximately an 8th of an inch. He also pointed out that it operated okay. And that the electron - but he believed that electron beam gun did indeed shift or move. The flight controllers here at the Control Center are discussing this anomaly. And will pass on to the crew at the next station, which is Guam, procedures which they feel will alleviate the situation. At 21 hours 47 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-911/1

Time: 17:21 CDT 19:22:21 GMT

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PAO This is Skylab Control at 22 hours 22 minutes Greenwich mean time. The space station is about a half minute away from acquisition at the Guam tracking site. And we'll have a very short pass over Guam, some 4 minutes plus. We'll stand by for air to ground.

CC Skylab Houston. We're AOS over Guam for 3 minutes.

PLT Roger.

PLT Hey Crip, will you finish grounding the second wheel on M551?

CC Roger. Second wheel on 551. Did it take you very much longer to get down to .1?

CDR I would have got there a lot faster if the time (garble). There must be a leak in the filament chamber.

CDR I'll check it again very carefully this time. I was looking at the checklist to make sure that I had pressurized it with the chamber open, and I did. I went by checklist.

CC Roger. There is some speculation here that even when your chamber reads zero that, you know, there is still a little bit of pressure there, and if you open it up real soon, you may still be pressurizing the chamber slightly, the filament chamber rather.

CDR Okay well, next time I'll let it sit - I'll let the work chamber sit in a vacuum for a while before I do the other thing. Then I'll I open it up and verify it.

CC Sounds good.

CDR But, I don't get much of a vacuum. I'm lucky to get under .1, .1 is about it no matter how long you let it set.

CC Roger.

CDR It's really making me old quick.

CC Rog.

CC Skylab Houston. We're 1 minute from LOS. See you again over the Vanguard at 23:00, 23:00.

CDR Okay.

PAO The conversation over the Guam tracking site was with the Commander, who was a little ahead of his time line on the schedule for the Skylab space station today. He was processing his M551 metal melting experiment. He will undertake that experiment 3 times today. He's already

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Time: 17:21 CDT 19:22:21 GMT
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made one run. Processing the second run and a third run will be made later in the evening. On the last run he will use a material identified as tantalum, which is a lustrous platinum gray hard metal with a high melting point. It's used in making corrosive resistant chemical apparatus and equipment. That replaces a metal which was identified earlier as nickel. We anticipate having a change of shift briefing at approximately 6:30 p.m. predicated on the weather, and whether all of the flight controllers can indeed make it in to the Mission Control Center on time for a proper handover. Tentatively we have scheduled the off going Flight Director, Milton Windler to appear and with him will be Dr. Royce Hawkins, who will also appear and respond to any questions relating to crew health and crew condition. At 22 hours 30 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-912/1

Time: 17:59 CDT 19:22:59 GMT
6/12/73

PAO This is Skylab Control at 23:00 hours
Greenwich mean time. We're about a minute away from ac-
quisition at the Guam site. We'll hold the line up for
the communication with the crew through the Vanguard.
CC Skylab, Houston. AOS 10 minutes.
PLT Roger, Bill.
CC Skylab. LOS in 1 minute. Ascension
23:13. Also, also we replaced the flight plan and it should
be in the teleprinter at this time.
PLT Okay.
PLT Hello. Houston, are you still there?
CC Go, Skylab.
PLT There ain't no flight plan here, Bill.
All we got's general evening questions.
CC Copy.
PAO We've had loss of signal at the Vanguard
tracking site. And we'll keep the line up because we expect
to pick up the Skylab space station again in about a minute
and a half over the Ascension tracking station.

END OF TAPE

SL-II MC-913/1
Time: 18:12 CDT 19:23:14 GMT
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CC Skylab, Houston. . . 11 minutes.
SPT Roger, Houston. Were you sending up another flight plan because the plan has changed or because you thought the first one was garbled.

CC We thought the first one was garbled.
SPT No, it was okay.

CC Copy.
SPT Hey Houston, Skylab. Are you there?
CC Go Skylab.

SPT I can give you some evening questions if you're ready.

CC We're standing by.

SPT Okay. Question 1, no comment. It's just true. That's all. Question number 2, we don't think so. The method being used for ergometer restraint now is nothing. That is no external devices at all. Just the handle bars and the center strip, and (garble) you put your head on the ceiling. Everybody uses the same handle bar setting, which is 5 and the seat setting, we're using 77. It really isn't very important because you don't use the seat. Ideally you can design some handlebars that would allow you to take the stress in the comfortable position, where it didn't exert a pitch torque on your body. But that's dressing and I don't think that they need anything new. What they need to do is train a little bit on a horizontal bike.

CC Joe, do you think it's worth the effort of a simple extension of the handlebars?

SPT That'd be nice.

CC Copy.

SPT Question number 3, the SPTs opinions, I'll have the CDR and PLT look these over, and if they differ from me, they can put it on Channel B. A - I'm sketching, the corona, the other two aren't, and it's been only moderately helpful so far, because the - there's not a lot of detail on it, and we can tell that the corona's changing by going back and reviewing our sketches, but the information isn't terribly useful to us. I don't understand part B, rolling of white light coronagraph to identify faint figures. No we haven't found that helpful. Haven't tried it, H-Alpha image does appear to move. It moves quite a bit as sunset approaches and it lasts a good 10 to 15 seconds. And I expect that your rationale for that is correct.

CC Okay. Is there any difference between the two H-Alpha's?

SPT I think that H-Alpha 2 appears to have finer resolution, but that may be just because you can't

SL-II MC-914/1
Time: 18:27 CDT 19:23:27 GMT
6/12/73

PAO This is Skylab Control at 23 hours 27 minutes Greenwich mean time, with an advisory to the press. A change of shift briefing is scheduled to get underway shortly in the News Center Briefing Room, with Milton Windler, the off going Flight Director, and associates participating. At 23 hours 27 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-915/1

Time: 19:12 CDT 20:00:12 GMT
6/12/73

PAO This is Skylab Control Houston, starting the 164th day of the year. In fact, we're 13 minutes into that day. During the change of shift press conference, we had about 5 minutes and 14 seconds of air to ground. And we will play that back to you now.

CC Skylab Houston. AOS 11 minutes. And Skylab, we're sending a pointing load up on this pass at Guam. And it's on unattended ops.

PLT (garble) and copy that Bill.

CDR Houston are you ready for the evening status report?

CC That's affirm, go ahead.

PLT The CDR had a standard day of everything on the menu plus two cans of fattening butter cookies. The SPT, normal all the way. The PLT ate everything except for lunch or dinner item 75 bread. Delta water is minus 1, optional salt a whopping 1.5. Photo log as follows: 16 millimeter S073 retract M151, Charlie India 25, 70, Mike Tango 11; S073 stow M151, the same draft for the film is all the same. M551, Charlie India 05, 18, Charlie India 01; 35 millimeter, Charlie India 28, 15, Charlie India 29, and 53; the Hasselblad Charlie X-ray 06, by our count as 97 frames exposed. Are you still there Houston?

CC We're still copying. Go.

PLT Okay, I didn't want to say all that stuff for nothing that's all. Under EREP 190 Alfa. The number 1 is 7226, number 2 is 6563, and number 3 is 7438, number 4 is 7433, number 5 is 0977, number 6 is 8293.

CC Copy.

PLT We are a foots out here on the S073 stuff which has items supply Charlie India 25. We got on end of film light on a time frame, however, it's still full of film. We don't quite know what's going on. We marked the film and the marks gone and that indicates that it is still moving. Are you ready for the Gear A configuration?

CC That's affirmative.

PLT Okay. Alfa 1 is 02, Charlie India 05, 18, Charlie India 01; Alfa 2 is 03, Charlie India 06, 62, Charlie India 03; Alfa 3, 06, Charlie India 08, 18, Charlie India 07; Alfa 4 05, Charlie India 25, 50, Mike Tango 11.

CC We copy.

PLT There were no flight plan deviations, any stowage items changes have been put on tape, and no inoperable equipment that you don't already know about.

CC We copy that.

CC PLT Houston.

PLT Go ahead.

SL-II MC-915/2

Time: 19:12 CDT 20:00:12 GMT

6/12/73

CC Apparently we have lost the star on the
tracker and the new acquisition angles all are- -
PLT Hold it, hold it. I've got your (garble)
CC Copy.
PLT Okay, go ahead.
CC Inner gimbal plus 0198, outer gimbal plus
1950.
PLT Got it thank you.
CC Skylab, LOS in 1 minute. Vanguard at
00:37, and we will be dumping the tape recorder at that point.
PLT Roger.
PAO That completes the tape recorded infor-
mation that came down from the space station through Guam.
We will again pick up the Skylab station at the Vanguard
tracking site in about 18 more minutes. At 19 minutes 3 sec-
onds Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-916/1

Time: 19:36 CDT 20:00:36 GMT

6/12/73

PAO This is Skylab Control Houston, 36 minutes into the new day. The Skylab space station is about 3/4 of a minute away from acquisition at the Vanguard site. At this time the crew is - all three of the crew members are involved in presleep activities. About the only thing that's going to transpire later tonight will be a little ATM viewing. And another run at the M555 metals experiment. And that will be conducted by Pete Conrad. We'll stand by for air to ground.

CC Skylab, Houston. AOS 10 minutes.

CDR Rog, Houston. Say, I had a little problem with M551 I'd like to discuss with you.

CC We're standing by.

CDR Okay, on welding on the third plate, when I got to the cross and I was welding, was doing the pooling, at the end of the amount of time after the electronic beam got to ON I hit the READY reset switch to turn it off and it would not turn off. So I reached up and turned off the (garble) beam power. And that shut it off, but I can hear something clicking away back by the battery, and the 5 KVA was still on for some reason. And the only way I could get it to shut off was to pull the MAIN BAT circuit breaker. Then I went through the malf procedures and there's absolutely zero in there, so I went back to my own imagination and plugged the BAT circuit breaker back in, and sure enough the 5 KVA was still on, so I turned on the filament power and that turned it off, but along about that time the electron beam gun went off again all by itself, so I decided relays were hung up or something. So I pulled the filament BAT circuit breaker this time, and reset it and that reset whatever it was that was wrong in there and that's where we stand right now. I finished the third specimen, but I thought I'd pass that along. We might like to hear some words about it. We were still considering trying to do the M552 and that requires the gun. And I don't know whether I got everything reset or not. But at least it's in a condition where we can give it a try again.

CC We copy that, Pete, and we'll get back to you before 552.

CDR Thank you. Well that's something that they said they weren't going to schedule, if we could do it on our own, we would. We were planning on giving it a whirl tonight, maybe.

CC Okay, well that's what I -

CC Hello Skylab, SPT, Houston. If you're near a squawk box, Joe, could you give us a call, please?

SPT Go ahead.

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Time: 19:36 CDT 20:00:36 GMT
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CC

Is that Joe.

SPT

Yeah.

CC

I just wanted to follow up on a couple
of those questions you answered the last time for us Joe.
You mentioned that the H Alpha image appears to move as
you approach sunset approximately 10 or 15 seconds.

END OF TAPE

Missing SL-II MC-

924 Area

SLII MC-4033/1

SL-II MC-917/1

Time: 19:41 CDT 20:00:41 GMT
6/12/73

CC
SPT
CC

Joe?

Yeah.

Just wanted to follow up on a couple of those questions you answered last time for us, Joe. You mentioned that the H-Alpha image appeared to move as you approached Sunset approximately 10 or 15 seconds early. That's a good number for us. We would like a little precision on it if it's possible, the next couple of times you're on the panel, if it's convenient for you to remember and just note as accurately as you can, when the image first begins to move. It would help us in our planning, because apparently we will want to make sure we do cut off all observations before that does begin to happen. And on question B, which was a little puzzling, we tried to abbreviate too much, apparently. We had noticed that faint features in the corona, like a very faint streamer, or something embedded in the coronal brightness could be seen more clearly when we rolled the TV, and we were finding that very helpful here on the ground, and were wondering if you also found it useful in identifying these streamers in the spacecraft? Over.

SPT
CC
SPT

Hi, Owen, I didn't recognize you at first.
Good to talk to you, Joe.

Hey, in doing this work with the corona, are you using stuff we've sent down or the training films?

CC
Oh no, we're using all stuff you've sent down, and it looks very interesting indeed. All the PIs back there are very enthusiastic and pleased with the way it looks.

SPT
Okay, I'll have to look at it - we - I have not specifically noticed anything being enhanced by rolling, but it may be something we just missed. Yes, we'll start timing that for you, on H-Alpha. I suspect it's fewer than 15 seconds and we'll try and get you an accurate number.

CC
Okay, thanks a lot, Joe, and they are all very enthusiastic about the pictures and the white light, and the XUV as well. Even though the XUV may be a little faint, it's very helpful down here with those integrated pictures, because we can pull it out frame by frame and look at it.

SC
(garbled) - the X-ray image is really the disappointment, I guess, of the displays. And as far as the JOPS and building blocks go, Owen, I think the format is fine. I know you'll want to make detail changes, but I think all the people that put those together deserve a lot of credit.

CC
Thanks, Joe. Also, your answer on the X-ray image was exactly what we were looking for. We're aware that at the moment you probably can see very little with the solar activity as low as it is. However, we do still feel, based upon its performance and the performance of the PMEC, that it's doing just about what it should do. And whenever the activity

SL-II MC-917/2

Time: 19:41 CDT 20:00:41 GMT
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does increase, or a flare, or plage brightens up, you should then be able to see it on that X-ray image. So you shouldn't get too discouraged just because you don't see it now. When the activity picks up we think you should.

SPT We're waiting and waiting for that flare.

CC That's reg.

SPT Say, Owen?

CC Go.

PLT Owen, baby.

CC Hello, Paul.

PLT You there?

CC Go ahead.

PLT Hey, I thought of something I put on tape

today, some TV of the coronagraph, and I think that maybe what you're seeing in there, you know, our occulting disc is a little off set. And I noticed that you can record some features in the corona to be enhanced as you offset the disc such that you get the best picture of the first - a little closer to the edge of the disc. And you'll see things that you didn't see otherwise, it's kind of like taking the H-Alpha picture off the edge. - automatic gain allows you to see the streamers in that. And - the big changes in the roll, maybe that's what you're seeing instead of actually being able to see them better when they're moving, maybe it's because different features are moving closer to the edge of the disc.

CC Well, it is true that near that 7 to 8 o'clock position, where the picture is brighter, you will be able to see things a little closer to the limb of the Sun, sort of like you used to do with P025 when you had it out the front of the airlock. You know you can rotate that occulting disc near the limb and see a little bit more stuff near by. But, that would be about the only thing I could think of that would produce the thing you're talking about, Paul.

CDR Hey, Owen, this is Pete.

CC Go ahead, Pete.

CDR I got one suggestion for the JOPs summary sheet. Especially S056 and 54. I put in there on each mode now, the number of frames that are going to be taken, because with the 56 acting up and 54 with no READY operate light, you do have to count the frames. It's not too bad counting frames, but there's enough programs in there that - well we've written on the instrument panel there, but that's a little sloppy. You might put the number of frames that are going to be taken in each set in there, just so it's handy for you.

CC Okay, Pete. Thank you. I think if you'll look on the building block in the upper left-hand corner, I believe, that frame number is in there, isn't it?

SL-II MC917/3

Time: 19:41 CDT 20:00:41 GMT
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CDR No, I don't think it is on - like this active
one log, 15 pictures I don't remember that being in there.

CC Okay, I'll check them all. We should have
them in the upper left-hand corner of each block, and appreciate
the suggestion, Pete.

CC And Skylab, we're going LOS in 45 seconds,
we'll have you at Canary at 58.

PAO In the vernacular of the Mission Control
Center, the spacecraft has gone over the hill. Next acquisi-
tion site will be the Canary Islands tracking station in 9
minutes. At 48 minutes into the new day, this is Greenwich
mean time, Skylab Control.

END OF TAPE

SL-II MC-918/1

Time: 19:57 CDT 20:00:57 GMT
6/12/73

PAO Skylab Control Houston, 50 seconds away from acquisition at the Canary site. We'll stand by for the air to ground.

CC Skylab Houston. AOS 10 minutes.

SPT Go on Houston.

CC We're standing by.

CC Skylab, we have one or two news items here, if it won't interfere with your activities.

SPT Good, go ahead.

CC The first thing is another satellite has been launched, the Titan 3C rocket by the Air Force at 2:15 this morning. Thought to be a missile early warning device. power shortage is to continue. A growing number of service stations are shortening their operation, as summer travel increases. Power, electric power is being curtailed, especially along the east coast, which apparently has a heat wave. It's causing a drain from air conditioning operation. All the federal offices in Washington DC began a partial brown out today to help fight the power shortage.

SPT Hope they don't brown you guys out.

CC And we've always got a plan out back we can fire up.

SPT Okay. You can always get onto your ergometer Bill.

CC Thank you.

CC And it says that the devaluation of the US dollar is causing increases in the price of foreign made imports. Any thing from food stuff to automobiles.

SPT Did we devalue again, how much?

CC No, we haven't officially devalued. But, apparently the price on the money markets is going down.

SPT Okay.

CC And on sports, most of the major leagues had a day off. The San Francisco Giants won 2 to 1 over the Mets, increased their lead over Los Angeles to 1-1/2 games. Los Angeles is in second place and Houston is in third with 5 games behind. Astros are playing the Cubs tonight in the dome, but no score yet.

CDR Oh boy.

CC Jack Nickalaus leads the PGA golfers in irons this year with 181,000 dollars. The really big news, which Crip may have appraised you on is the rain in Houston today. Earlier today they had up to 7 inches in lots of spots and all the low places were under water.

SPT How are the bay area suburbs doing?

CC I was afraid you would ask that.

SL-II MC-919/1

Time: 20:04 CDT 20:01:04 GMT

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CC And for the local area flooding, that's been restricted just to streets. No houses have been involved, and such.

CDR Okay, that's good.

CC Yeah, that's not quite true in Friendswood. (garble) been blocked about a mile from his house, which has been overrun. And there are quite a few others up that way. We've - the creek that went past our back increased from about 10 feet and went to about 300 yards, as a matter of fact. We're still fortunately dry.

SPT That's good. We are too.

CC The director is spending the evening in Nassau Bay Motel. He lives in Friendswood.

SPT (laughter) Oh dear.

CC And we're going to sleep configuration with the GYROS. 1 and 2 is on. Three is backup.

CDR Roger.

CC There's also a message here that the S073 PI would like to convey his thanks for the outstanding job the crew did on the S073 today. The data tapes looked excellent, and these were correlated with scans from Pioneer 2, and scans from MAVI in Hawaii.

SPT CDR says he enjoyed it.

CC Copy.

CDR Say, Bill you still there?

CC We're still here Pete, go.

CDR Tell the M551 guys or the M512, however you want to look at it. We've determined what happened. It appears that the filament beam gun has moved forward. Not left or right, but it moved forward. Plus X for some reason, just a little bit, like maybe an eighth of an inch. It must be held in there by a rig or something like that.

CC We copy that, Pete.

CC PLT, Houston.

PLT Go ahead.

CC Film transporter 6 has about 18 percent film left and they'd like for you to shoot this up at - on any subject, any speed and tomorrow's film log will reflect this being used. And we'll be LOS in approximately one minute here.

PLT Okay, real fine.

CC And be advised, we won't be making Guam this time. The Honeysuckle is the next one at 1:47. There will be a medical conference there. Paul the EVA teleprinter pad should be on board at this time.

PLT Okay.

SL-II MC-919/2

Time: 20:04 CDT 20:01:04 GMT
6/12/73

PAO This revolution which is the 424th rev
took the spacecraft over the Canary Island tracking site
and the Madrid site. We've passed beyond communication
out of the Madrid site. Our next station will be the
Honeysuckle station in 26 minutes. At 1 hour 12 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-920/1

Time: 20:37 CDT 20:01:37 GMT

6/12/73

PAO This is Skylab Control, 1 hour 38 minutes Greenwich mean time. The Skylab space station is just brushing the edge of the Guam tracking site. We may have some telemetry. We doubt whether we will have any voice communication, but we'll bring the line up and stand by.

PAO During this period, when we have a small amount of Guam telemetry, we might speak about tomorrow's EREP pass, which is identified as pass number 10. It is a daylight pass, starting, an early daylight pass, starting over the Pacific Ocean well off the coast of Oregon. The actual data which will be coming down from the spacecraft on that Earth Resources pass, will begin south of Helena, Montana. The pass will continue on over the Rocky Mountains, and end approximately 350 miles off Rio de Janeiro in Brazil. The length of the pass is approximately 7400 statute miles. EREP pass number 10 is the next to last EREP experiment, or EREP pass for this Skylab mission. We'll keep the line up. We're approximately 5 minutes from acquisition at the Honeysuckle tracking station. And at that time, we will have the daily medical conference. So we would assume there will be very little air to ground that will come from Skylab during this the 424th rev.

END OF TAPE

SL-II MC-921/1
Time: 20:45 CDT 20:01:45 GMT
6/12/73

CC
at 02:36.

PLT

PAO

Skylab, if you read, we'll be at Canary

Okay.

The Skylab space station has moved out of the range of the Honeysuckle tracking station. Very little communication during this pass over Honeysuckle. Due primarily to the daily medical conference that was held over the site. We'll have a report from the doctor a little later and read it to you. We expect to reacquire the space station in about 3/4 of an hour at the Canary Island tracking site. So, we'll take the line down at 1 hour 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-922/1

Time: 21:83 CDT 20:02:33 GMT
6/12/73

PAO This is Skylab Control Houston, at 2 hours 33 minutes Greenwich mean time. We have received the daily medical bulletin as gathered together for us by Dr. Charles E. Ross. Dr. Ross says the Skylab crew remains in good physical condition following a busy day working experiments. In the area of medical experiments the Commander had a successful lower body negative pressure cardiovascular and exercise response test. Dr. Ross also says no medical problems have been identified, which could affect the mission time line. We've just had an indication through the medium of the warbler that we're about to be - about to acquire the Skylab space station at the Canary Island tracking site. We'll be in contact with the space station through the Canaries and Madrid for roughly 15 minutes. We expect at this time, during this contact, during this period of contact that the ground will give the crew a goodnight, thus ending their 19th day. Flight Director Don Puddy just identified that fact, that this is the last pass before we do indeed put the crew to bed for this the 19th day. So we'll stand by for the air to ground through the Canaries and Madrid.

CC Skylab, Houston. AOS 13 minutes.

SPT Roger, Houston.

SPT We're pretty busy right now. The CDR is trying to break the PLTs world record of 13 bounces around the ring lockers.

PLT With the blue ball.

CC Be sure it's only the world's record that you break.

PLT Don't ask for the rules. It's extremely complicated, involves orbital mechanics and everything.

CC How many Gs do you figure you work up running around those things?

SPT Oh, not more than a (garble) on the outside.

END OF TAPE

SL-II MC-923/1

Time: 21:41 CDT 20:02:41 GMT
6/12/73

CC And just for the record tonight's ball
scores came in, the Astros nothing, the Chicago Cubs 3.

CDR Run, run quick.

SPT Houston, Houston, where are you?

CC We're standing by.

SPT We didn't hear the scores. You cut out.

CC Oh, the Astros nothing, Chicago Cubs 3.

That's the final in the dome tonight.

SPT Well, I'll bet ole (garble) Jenkins did
it again.

CC Stand by Hap and I'll find out who it was.

SPT I always hate it when those two teams played
because I'm for both.

CC Hey, we've been watching some beautiful
TV, that been coming down recently from you people.

SPT I'm glad it came out good.

CC It's very good.

SPT What is it of?

CC Oh, M171, M092, that sort of thing. I'll
tell you, some of those pictures are worth a thousand words.

SPT Great. Our really favorite one of all is
the XUV monitor though.

CC There are also people who appreciate that.

SPT Oh yeah.

CC CDR Houston.

CDR Yeah, go ahead.

CC Question here on the 551. After you
cycled the filament battery circuit breaker, did you go to
ready reset to get the 5KVA to turn off.

CDR No sir, cycling the breakers did it by
itself.

CC We copy.

CDR Say Bill on that EVA plan, are you still
there?

CC Yeah, we're still here.

CDR I'd like a little more time tonight before-
we used some of the equipment and I would like, you know
on the first EVA like the tethers, the long tethers that
we used to hold the pole and so forth. I would like maybe
another hour to iron that gear out, make sure it's all
in good order.

CC Copy that.

CDR Other wise it looks okay. I don't think
doff our system this week on the EVA gear, that's a waste of
time.

CC Okay.

CDR You can make it almost all the way to the
wardroom with your PCU and umbilical on any how, it's not (garble)

SL-II MC-923/2

Time: 21:41 CDT 20:02:41 GMT

6/12/73

can't make it all the way.

CDR Yeah, time is open straight at that point, as a matter of fact, we almost in daylight the full time I would imagine. That's number 1 and number 2, that's all well out there any how. Daylight except for (garble) one of the film.

CC Hey, Rusty wants to know if you have an answer to the first question on the EVA?

CDR Oh, about the surf pumps?

CC That's affirm.

CDR I'm going to have to look that up, and get it to you in the morning. I'll have to go look at the checklist that stuff none of us can remember.

CC Okay.

SPT I'm pretty sure what happened Pete is that the LSUs were attached to the PCUs, but the PCUs weren't attached to us yet.

CC Copy.

CDR That's right. Joe's right. And as I remember I was talking about how cold I was, how nice the flow was. And Joe said, well I'm not getting any.

CC Okay, we copy. And we're going LOS for the night in about 20 seconds. And we'll see you tomorrow.

CDR Okay, it may have been the other way around. I forget who wasn't flowing, but when we put them on it was that way.

CC We copy.

CDR We're just going into daylight and the moon is just there. That's quite a pretty site.

CC You're right. We can only dream about it down here.

PAO Flight Director Don Puddy, polled the flight controllers in the Mission Control Center on a final systems check. And the response that he got from each of them just prior to bidding the crew good night was that the systems looked good. And so we bid the Skylab crew good night on this 19th mission day. At 2 hours 50 minutes Greenwich mean time on day 164, this is Skylab Control.

END OF TAPE

SL-11 MC924/1

Time: 05:55 CDT, 20:10:55 GMT
6/13/73

PAO This is Skylab Control at 10 hours 56 minutes Greenwich mean time. We're planning to wake up the crew during a current pass over Ascension Island within about the next 4 or 5 minutes. CAP COM Hank Hartsfield will be putting in the call. The planning shift, headed by Flight Director Neil Hutchinson, is in the process now of getting last minute pads ready to feed up to the space station on the teleprinter. And we're receiving good solid data on the Skylab Space Station at this time by both coolant loops continuing to function normally and no outstanding problems at the moment. The crew will have an active day of medical and ATM experiments again today and will have an early EREP pass, EREP pass number 10. The planned 32-minute pass today will extend from west of the Washington coast and cross over Vancouver Island; the Rocky Mountains; Wyoming; Kansas; Memphis, Tennessee; also the Kennedy Space Center; and out over Haiti, Venezuela and finally Brazil. Information gathered will aid in sea-state prediction studies - also the definition of cloud characteristics of the Pacific coastal area. It will be used for geologic mapping of Wyoming and adjacent regions - also surface water assessment in Kansas, and it'll be used for land-use mapping of the Kennedy Space Center area. Also investigators will use the data for hydrological studies of Tampa Bay and regional land resources studies of Brazil. We'll have television coming in at - beginning at 12:55 Greenwich mean time or 7:55 central daylight time. This will be TV that was recorded yesterday on the onboard video tape recorder of the M551 metals melting experiment. And also, beginning at Goldstone acquisition at Greenwich mean time 13:44, we're scheduled to get an additional live pass of EREP television through the view finder tracking system, coming down across the United States out over the Caribbean and on across South America, where we have acquisition. Major Flight Plan activities scheduled for today include Apollo telescope mount ATM experiments, also M092 and M171 medical experiments. The M092, M171 subject will be Science Pilot Joe Kerwin. The observer for those experiments will be Commander Pete Conrad. ATM duties will be shared by all three crewmen. We'll also have M131 runs with Science Pilot Joe Kerwin as the subject and Pilot Paul Weitz as the observer for the otolith function test, using the rotating litter chair. And a fairly full schedule of housekeeping, personal hygiene periods set aside for each of the crewmen and physical training periods. We're now 5 minutes from the time we'll be losing contact over Ascension.

CC Skylab, Houston. Good morning.
SC Hello.
CC How's it going this morning? We've got about 5 minutes left here to Ascension.

SL-II MC924/2

Time: 05:55 CDT, 20:10:55 GMT

6/13/73

SC

Okay, we're on our way.

CC

Skylab, Houston; about 30 seconds from

LOS; Carnarvon at 31.

END OF TAPE

SL-1 MC-925/1

Time 06:06 CDT, 20:11:06 GMT
6/13/73

PAO This is Skylab Control. We are out of range now of Ascension, and we will be acquiring again in 23-1/2 minutes as Skylab passes over the Honeysuckle Creek, Australia, Tracking Station and Carnarvon, Australia. The spacecraft now on the 430th Earth revolution. And the crew being awakened this past pass over Ascension by CAP COM Hank Hartsfield. The flight director on this shift is Neil Hutchinson. At 11 hours 8 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-926/1

Time: 06:30 CDT, 20:11:30 GMT
6/13/73

PAO This is Skylab Control, at 11 hours
30 minutes Greenwich mean time. Skylab in its 430th revolution, and we're about 1 minute away from acquisition through the Carnarvon, Australia Tracking Station.

CC - - 10 minutes.

CDR Hi, Dick.

CC Good morning.

CDR Good morning.

CC Skylab, Houston. We're about 1 minute from LOS, Honeysuckle, Hawaii will be coming up at 55. And we've got all the pads up except the odds and ends and the general message on the WLC-TV.

SC Roger.

CDR What did your pad-senders do, take the night off last night?

CC Well we had a little trouble getting them all together last night, Pete.

PLT He's just being smart.

PAO This is Skylab Control. We're out of range now, of the Honeysuckle Creek, Australia, Tracking Station. The next station to acquire will be Hawaii in about 13 minutes. And the crew is getting organized and up and about, ready for the first major activity of the day, an EREP Pass, which will occur on the 431st revolution and on into the 432nd. This will be ground track 5, a 32-minute pass that extends from west of the Washington Coast and on over the north central United States, down across the Kennedy Space Center, down over the Caribbean, the Island of Haiti, and then on across Venezuela and Brazil. At 11 hours 43 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-927/1

Time: 06:54 CDT, 20:11:54 GMT
6/13/73

PAO This is Skylab Control at 11 hours 54 minutes. And Skylab now coming up on the Hawaiian Tracking Station.

CC Skylab, Houston through Hawaii for 2-1/2 minutes.

SC (Garble)

CC Skylab, Houston. We're about 30 seconds from LOS; Goldstone at 07.

SC Roger, babe.

PAO This is Skylab Control. That's all through Hawaii, and we'll be up again in about 6 minutes for the acquisition at Goldstone, California.

END OF TAPE

SL-II MC928/1

Time: 07:07 CDT, 20:12:07 GMT

6/13/73

PAO This is Skylab Control. Now we're about to acquire at Goldstone, California with Skylab in its 430th revolution coming across the continental United States and out over the Atlantic on it's 432 - 431st revolution. This is our next pass prior to the EREP pass.

CC Through Goldstone 5 minutes.

SPT Houston, SPT.

CC Go ahead.

SPT I'd like the photo people to recommend DAC settings for me to shoot up transporter 06 out the window during the EREP pass. Over.

CC Roger. We'll work on it.

CDR Hey, Hank, for the M551 people I've left that tank sit on vent all night and that's the first time the readings have really been good, it's perked up. In fact just supposed to - I don't know what it was - the motors or something must have been getting through one heck of a lot of outgassing all day yesterday. I've got a good hard vacuum in there this morning 0.01.

CC Roger, sounds good.

CDR Yeah, well all the welding was done between 0.1 - right around 0.1. But this morning for the first time I got a 0.01.

CC Pete, while we're talking about it, we've got a troubleshooting procedure that we are working up on this EV gun and we're going to get that up to you sometime this morning and we'll do that in place of your 551 terminate.

CDK Good. Well, I'll tell you what we've done. We've got a 5 by 2 wheel in there right now, and if the troubleshooting procedure is successful we'll go ahead and do the wheel, make the ball bearings.

CC Skylab, Houston, we're about 10 seconds from LOS. We'll be coming up on Mila at 15.

END OF TAPE

SL-II MC-929/1

Time: 07:14 CDT, 12:12:14 GMT

6/13/73

CC Skylab, Houston through Mila 7 minutes.
SC Roger.
CC CDR, Houston. We'd just like to verify.
You did say you had (garble) and wheel installed, didn't you?
CDR Yes, sir, and it's been a hard vacuum, 0.01.
CC Okay. That'll fit in with our trouble-
shooting all right.
SC Let's see you get that up to us.
CDR Will you tell me what it is now? I think
we've got a few minutes.
CC I haven't seen it myself, yet. All I
know is, it just got in from Marshall, and the guys are
looking over it. And we hope to have it up to you by 14:00.
SC Yeah. That's working fine.
CC Skylab, Houston. One minute to LOS;
Ascension at 35.

PAO This is Skylab Control at 12 hours
27 minutes. And we're out of range now of the Bermuda
Tracking Station; about 8 minutes away from acquiring at
Ascension Island. Skylab now in the 431st revolution of
Earth. And on this revolution, toward the end of the 431st
and on into the 432nd, we'll have our 10th EREP pass of the
mission. This, the next to the last Earth resources pass,
will include an unusual dawn data take at the Pacific Ocean
site, more than a thousand miles west of Vancouver, British
Columbia, at the northern most point beneath Skylab's orbit.
The Skylab Earth resources experiment package sensors are turned
on over the ocean at 8:42 a.m. central daylight time. The re-
mainder of the data will be acquired beginning over the Rocky
Mountains just south of Helena, Montana at 8:48 a.m. From this
point to the conclusion of the pass, some 7400 miles to the
southeast, the space station follows ground track 5 and 6. The
pass ends about 350 miles east of Rio de Janeiro, Brazil at
9:14 a.m. central daylight time. Today's pass includes two
studies of severe storm conditions in the Mississippi, Alabama
area. Most of the sites in the midwest are under 40 to 70 percent
cloud cover. And some totally cloud covered in the northwest and
southeast, which may limit the amount of information success-
fully gathered during the extended pass. We have a weather
map and some site information on the ground track on our
TV monitor at the present time, showing the areas of data
collection. Two Florida cities, Tampa and West Palm Beach,
are to be surveyed as part of an extensive program to measure
growth and changes in urban areas since the 1970 census. Among
the specific sites to be covered are the Yellowstone Park area
of Wyoming, Montana, and Idaho. And we do show some fairly
heavy cloud cover in that area. The Powder River Basin and

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Time: 07:14 CDT, 12:12:14 GMT
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northeast Wyoming and southeast Montana. Also (garble) Nebraska area and the Orlando, Florida area. During the portion of the EREP pass over the continental United States, the crew will be using the view finder tracking system with the TV camera attached. We expect to be getting television pictures down across the northwestern, central, and southeastern United States and out over the Caribbean. The data gathered on this EREP pass will be used in sea-state prediction studies, definition of cloud characteristics of the Pacific coastal area - also geologic mapping in Wyoming and adjacent regions. Surface water assessments will be made in Kansas. And land-use mapping will be done at the Kennedy Space Center area. Also, Tampa Bay hydrological studies and regional land resources studies will use the data collected on this pass. The hydrological studies of Tampa Bay and the land resources studies taking place in Brazil. At 12 hours 31 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC930/1

Time: 07:33 CDT, 20:12:33 GMT
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PAO This is Skylab Control. We're about to hear from the crew over Ascension Island. We'll bring up the lines for the live communications from that Ascension pass beginning in about 1 minute.

CC Skylab, Houston through Ascension for 5 more minutes. And for info, we're configuring your rate gyros for the daytime configuration. And SPT, I got your photo settings for you.

SPT Go ahead.

CC Okay, if you plan to shoot that thing out the window totally, in other words no inside shots, use f/5.6 at 1/250; if you're going to mix up outside and inside, use f/11 at 1/500.

SPT Okay, Hank. This one will have to be a mix. I'd like to have a pure 400 footer dedicated to EREP pass tomorrow, if they can see fit to do it. I think it'd be good photography.

CC Okay, so then for your mix then, you want to use f/11 at 1/500.

SPT I got you.

CC You are using transporter 07. Is that correct? On DAC 6?

SPT No, sir. This is transporter 06 which we're to shoot up. That's just the one we were to shoot up last night.

CC Okay, let us take a look at that.

CC SPT, Houston. I think we finally understand what's happened here now. You haven't rethreaded; so the f/11, 1/500 is a good setting to run that out, and then you'll rethread for later today. Is that correct?

SPT That's correct.

CC Skylab, Houston. We're about 40 seconds from LOS. Carnarvon will be coming up at 06.

PAO This is Skylab Control. We've had loss of signal now through Ascension, and we'll be acquiring in 23 minutes at the Carnarvon, Australia Tracking Station as the spacecraft comes up over Australia and the Pacific at - on the 431st revolution and toward the start of EREP pass number 10. We have the weather map up again on the TV monitor, which shows you graphically the areas of heavy cloud cover, beginning up in the northwest over the Montana, Idaho, and Wyoming area. And we have an area showing 8/10 to 10/10 cloud cover, which is essentially a solid overcast - 80 to 100 percent cloud cover. Then on across the - following the ground track down across the midwest Rocky Mountain states and then into the southeastern corner of Kansas, on across Missouri, we first enter an area of about 40 to 70 percent cloud cover and then again pick up the solid overcast beginning in southeast Kansas and

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Time: 07:33 CDT, 20:12:33 GMT
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Missouri and continuing on pretty much solid overcast through the southeastern United States with areas - breaking out into areas of 40 to 70 percent cloud cover. And then clearing somewhat over Florida - 40 to 70 percent cloud cover there - scattered to broken clouds in that area. So that we do have a fair amount of cloud cover on today's EREP pass over the continental United States but with areas of scattered to broken clouds in the Rocky Mountain and central states. At 12 hours 44 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-931/1

Time:08:04 CDT, 20:13:04 GMT

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PAO This is Skylab Control at 13 hours 4 minutes Greenwich mean time, with Skylab coming up on Carnarvon, Australia. And we'll have acquisition through Carnarvon for about 11 minutes. At the present time, we're receiving television which was dumped earlier during the day at a series of continental U.S. ground stations, - Goldstone, Texas, and Mils, - and is being fed into the Johnson Space Center and released at this time. The TV is of the M551 experiment performed yesterday. And we've seen Commander Pete Conrad place the metal disc to be welded in the M551 facility, in the chamber. At the present time, we're also seeing console operations. There will be some overlap in the coverage from each of these stations, so that you will see, as these pieces of television come in, some repetition of the activity. We've had a shift handover in Mission Control. Flight Director Phil Shaffer has replaced Flight Director, Neil Hutchinson. And the CAP COM coming on duty is Astronaut, Dick Truly, replacing Astronaut, Henry Hartsfield.

CC Skylab, Houston. Be advised, we see a small problem in the Nz in the star tracker. We're going to be - ESCO is going to be commanding star tracker out of gimbal backup on our next pass.

SC Roger.

SC Where've you been? How was leave?

CC It was great. It's also great to finally get on the day shift and talk to you guys at a normal hour.

SC Yeah. I was wondering about that.

CC It's been tough.

CC Skylab, Houston. We're finished our commanding to star tracker and it looks like we're in good shape now.

SC That's your story, huh?

CC Roger.

SC Don't tell me you've been on vacation.

Tell him you've been running launch shifts with Captain B.

CC Not true.

SC Houston, SPT.

CC Go ahead, SPT.

SPT Couple things on the Earth terrain camera.

Number 1, I had a peculiar funny, which I'll just repeat for information. Maybe it's explainable. When I first attempted to turn power on the camera, I did not get full operation. I got the green light, but no noise and no ability to move frames through. And I still do not know what the matter was, but I finally fixed it by opening and then closing again to all three circuit breakers on the inverter, at which time I heard the inverter come on. And

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Time: 08:04 CDY, 20:13:04 GMT
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it was not on previously. But it's okay, now. The other thing on the ETC is that there is still a loud hiss when I hook the vacuum hose up to this particular film cartridge. And I'm going to make the run without the vacuum hose. Over.

CC Roger, Joe. Copy.

SC (Garble)

SC Also, I think transporter 05 was jammed - really, really, because I ran the ETC prep with that transporter with the END OF FILM light on and all that stuff, and when I got done, the frames - the percentage used was the same as it has been when I started. We'll tear it down later.

CC Okay, Joe. Just let us know when you do.

SPT Okay.

END OF TAPE

SL-II MC932/1

Time: 08:12 CDT, 20:13:12 GMT
6/13/73

CC Skylab, Houston; we're about a minute from LOS at Carnarvon. We're going to have a short break and see you at Guam at 13:19. We're going to be dumping the data tape recorder at Guam, and be advised after the EREP pass and you get back to solar inertial, there is about 11 minutes from the time you're in solar inertial and sunset and we'd like to make sure you try to reacquire the star with the star tracker during that period.

CDR

We'll give her a bloody go.

CC

All righty, see you at Guam.

PAO

This is Skylab Control at 13 hours 17 minutes with Skylab now in between the Carnarvon, Australia Tracking Station and the Tracking Station on Guam Island and it'll be about a minute and 45 seconds before we reacquire through Guam. And we're continuing to receive a combination of ATM and video tape recorder television which has been down-linked from the Skylab to ground stations being brought into Mission Control Center at this time. At the present time we're looking at ATM video. Prior to the ATM video we were looking at the M551 experiment activities and we saw the metal disk placed in the experiment chamber and we saw a sequence as the disk was removed from the chamber after the metals melting experiment had been completed and you could clearly see the melted or weld area on the disk. The disk will be returned and evaluated to determine the behavior of melting metals in a space environment in zero g and vacuum conditions. We're about 10 seconds from acquisition now at Guam. We'll stand by for Dick Truly's call to the crew.

CC

Skylab, Houston; Guam for 10 minutes.

PLT

Hello.

PLT

Roger, Dick. We don't have TV through

Guam today, do we?

CC

Stand by.

PLT

I was wondering if you had TV - I'd give you a shot at it. Otherwise I'll put them on 2 minutes on the VTR.

CC

Answer is negative, Paul. No TV until

Goldstone.

PLT

Okay, we've got about 2 minutes of the

Moon on the VTR.

CC

Okay.

END OF TAPE

SL-II MC-933/1

Time: 08:20 CDT, 20:13:20 GMT
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CC Skylab, Houston. Be advised we're powering down the MDA wall heaters and CBRMs 3 and 15 in preparation for the EREP pass. No action required.

SC Okay.

CC Skylab, Houston. We're about a minute from LOS. We're going to see you at Goldstone at 13:44.

SC See you.

CC Okay.

PAO This is Skylab Control. Our next station to acquire will be Goldstone, California, in 13-1/2 minutes. And at that time we'll be into EREP pass number 10. During the pass over Guam, we had an indication that the startracker, which is used to provide attitude information for the EREP pass and used as an attitude reference in getting the workshop into the proper attitude, the Z-local vertical attitude, was providing an improper angle to the computer. Possibly the startracker had acquired or hung up on a bit of debris instead of tracking the desired star. In any event, the backup procedure was fed in, which is to provide the angle that the startracker should be providing automatically. This input from the ground was successfully entered, and the workshop should be maneuvering automatically to the desired Z-local vertical attitude at this time, and will be in attitude for the EREP pass. At 13 hours 32 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC934/1

Time: 08:41 CDT, 20:13:41 GMT

6/13/73

PAO This is Skylab Control at 13 hours 47 minutes Greenwich mean time and at this time the crew aboard Skylab should be turning on their instruments for Skylab EREP pass number 10. We'll be acquiring through Goldstone California in about 2 minutes. This will be a 32 minute pass extending from west of the Washington coast - crossing over Vancouver Island, the Rocky Mountains, Wyoming, Kansas, Memphis, Tennessee, down over the Kennedy Space Center - out over the Gulf of Mexico in the Caribbean - across Haiti, Venezuela and Brazil. And as mentioned previously there is significant cloud cover in the northwest about - northwestern United States about 80 to 100 percent almost solid overcast, giving way to scattered or broken cloud conditions of 40 to 70 percent cover across the Rocky Mountain States and down over the central U.S. and then picking up heavy cloud cover again in the southeast and also fairly heavy cloud cover over portions of south America. We're expecting to get television through the viewfinder tracking system during this EREP pass and among the view finder tracking system targets will be Turtle Creek Reservoir which is on the Kansas-Nebraska border. The crew also will be looking at anvil cloud tops in southern Iowa and on across Tennessee and they're scheduled to gather data, through the VTS, of Nassau in the Bahamas. They'll also be doing nadir tracking over the water in the Gulf of Mexico. We're less than a minute now from acquiring signal. And we'll be standing by for acquisition and video. We do have a signal now and television picture coming in through the viewfinder tracking system.

CDR Four minutes. Mark. Standing by. 34 minutes. Mark. Standing by for 45.
CC Skylab, Houston. We're AOS at Goldstone. We've got Television. No response required. Looking good.
CDR Roger. How do you read, Houston?
CC Loud and clear.
CDR Okay.
SC Are you going to command the tape recorder on when you need it Dick, or do you want us to turn it on first?
CC Skylab, Houston; we'll take care of it from the ground.

SC Okay.
CDR Captain Video strikes again.
SC 8, 9, MARK, Polarization 4. Standing by for a 191 ready light. 4,3, 1, DAYLIGHT. Bravo 7 reads 30.

SC For your information Houston that VTS is looking (garble) just 54 degrees ahead.

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CC Thank you.
PAO Skylab crossing over Washington state at
this time.
SC 1, 2, 3, 4, 5, 6 altimeter to STANDBY.
SC MARK 46 26, polarization 1.
PLT Dick, I couldn't find Jupiter and I don't
have time to look anymore.
CC Roger, copy.
CDR Okay, I have a scatterometer X-mitter
light.
CDR 4, MARK. S190 MODE AUTO. Joe, on stand by
for 48 ETC AUTO.
SC MARK ETC AUTO. 48:10 MODE READY or 92 and
I have tape motion light.
SC Wonderful.
SC Houston, you got any later reports on the
weather in the Bayonett Kansas area. Is it any better than the
8/10 (garble)?
CC Stand by just a second. I'll get the
latest update.
SC Okay. There's no rush, Dick. No sweat.
It's either good or it's not. I'm just curious.
CC Skylab, Houston; no change in the weather.
It still looks about 8/10th cloud cover.
SC MARK 49:16. The altimeter is ON. I have
no ready light on the altimeter.
SC ALTIMETER to STANDBY. Mode check on 92.
SCAT ON - RAD ON.
SC Okay, that's where it's supposed to be,
Houston. It doesn't look too good, does it?
CC It sure doesn't.
SC Well, gee, it's still looking at a couple
of holes in the clouds, huh? (Laughter) What holes? Oh my.
PAO Weitz is looking for Turtle Creek Reservoir.
On the Kansas-Nebraska border, but not having much luck
penetrating that cloud cover.
SC Okay, SCAT ON to STANDBY and RAD to STANDBY.
S193 to 0.
SC That's pretty solid (garble), Dick.
SC SCAT's ON, RAD's ON.
SC Well. Better than that does it.
SC Hey, when you want to a thunderstorm you
can never find one.
CC Sorry about that.
SC MARK. SCAT STANDBY, RAD STANDBY. Altim-
eter is ON. I have a READY light. And I can reconstruct. I
made a discovery back there and I can tell you what happened.

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SC

Going after (garble) power in cue, Dick.

END OF TAPE

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SC - - and I can reconstruct. I made a mistake
back there, and I can tell you what happened - -
SC I'm going (garble) that power and (garble),
Dick.
CC Understand.
SC There were no (garble) in the area. No
good CBs.
CC Roger, PLT. - -
SC Okay. S190 to (garble). There (garble) a
little (garble)
SC Looks like the whole U.S. is clobbered today.
SC Okay, 92 to MODE READY. Tape looks good.
SC Okay. For the EREP folks - Back there
where I was supposed to originally put the altimeter to STANDBY,
(garble) put the SCAT to STANDBY, and that goofed up the
cycle there. Goofed up the warm-up time on the altimeter, too.
It's just that one part in there. Also caused the SCAT TRANS-
MITTER light.
CC Roger, CDR.
SC I'm not sure where we are here, Dick.
CC Stand by; I'll tell you.
CC Skylab, Houston. It looks like you're
probably overhead Alabama now and coming up toward the Florida
Panhandle.
SC Okay. Can't see much through these clouds.
Boy, (garble) there's some now. It's the beach. That's why it
stands out so good. There's the Cape under the clouds there.
I see the Cape.
SC SCAT's ON; RAD's ON.
SC There's a Titan complex, I think, Dick.
CC Roger, Paul. We see it.
SC (garble) out of the clouds, I
guess. Hey there it is. I'd rather get back to the business
at hand.
SC Okay. Coming up on some shallow water.
Ought to be coming in the top of the screen pretty soon.
SC Do those reefs show up? Can you see them
all right?
SC MARK Polarization 4.
SC SCAT STANDBY, RAD STANDBY. Altimeter's
ON. MODE CHECK on 92. SPEED MEDIUM. ETC to STANDBY at 56:58, Joe.
You've got about 30 seconds.
SFT Roger. It's cloudy here too.
SC Okay. There's Andrews. That ought to be
NASA about there, Richard. I can hardly see it through the
clouds, though.
CC Roger.
SC Well here's something. I'll get a (garble)
clear area, about there. You see the difference it makes when
you look through less and less haze? It really makes a difference

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when you're trying to look out there 45 degrees, Houston.

CC Roger, understand.
SC S190 light's out, MODE's STANDBY. FRAMES GOING
to FIX.

SC Okay. I'll give it a few shots there.
SC (garble). Quick answers from the EREP Gang.
Do they want another site in the city or stay on the same one?
CC Say again, the question, PLT? And be
advised we've secured the TV.

PLT Okay. Never mind, now, Dick.
SC Here's the tongue of the ocean, Houston, if
you've got the recorder running, which you don't.

SC Here you go, the recorder's on.
CC Roger.
SC Standing by for 58:24, and the altimeter
will be going to STANDBY. STANDBY. MODE 1, 58:45, looking for
the altimeter ON again.

SC Okay. We can turn that off, now.
SC 58:45, the altimeter is ON. Joe standing
by for 59:40 and the ETC to AUTO.

SC All right.
CC Skylab, Houston. The television and the
VTR - Skylab Houston. The television and the VTR are yours
for the TV 29 cleanup. Also if you have any problems locking
on the star tracker, we'd recommend to bracket it to the
larger numbers on the outer gimbal angle. We're about a min-
ute and a half from LOS. We're going to see you at Tarnarvon,
at 14:46.

SC Bye. 59:40 ETC AUTO.
SC I got it.
SC Where are we?
SC Just passing the Dominican Republic,
I think. Hispaniola.

SC What are we coming up on now?
SC Clouds. Well, cloud photography - - (garble)
23 MODE AUTO, 30 S192 to READY. MARK, READY. Tape looks
good. At 55 the altimeter to STANDBY.

SC 55 MARK altimeter to STANDBY, standby
for the 191 POWER at OFF. 105. 2, 3, 4, MARK. POWER OFF,
078, 10, 11, 12, 13, 14, 15, the POWER is back ON. Check 92
140 altimeter to come ON. 6, 7, 8, 9, 1-Brady, the altimeter is ON.
Standing by for READY out on S190 in 2 minutes. 6, 7, 8,
9, 2 minutes-READY OUT MODE STANDBY.

PAO This is Skylab Control, we've had loss
of signal now through the Bermuda Tracking Station. This
EREP pass will continue down across the northern part of
South America and ends about 350 miles east of Rio de Janeiro,
Brazil. A disappointingly large amount of cloud cover on that
EREP pass. And we expect there will be areas of fairly heavy

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cloud cover South America, as well. Our next station to acquire will be Carnarvon, and that'll be 43 minutes from now. Our change-of-shift briefing with Flight Director, Neil Hutchinson, will begin shortly in the Johnson Space Center News Center Briefing Room, room 135. We'd estimate start-time on that in about 5 minutes from now. At 14 hours 3 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC936/1

Time: 09:25 CDT, 20:14:25 GMT
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PAO This is Skylab Control at 14 hours 25 minutes. We're still 20 minutes away from reacquiring at Carnarvon, Australia. And we're ready at this time to begin the Change-of-Shift Press Briefing in the JSC News Briefing Room. We'll switch to the News Center at that time for that briefing.

END OF TAPE

SL-11 NC937/1

Time: 09:51 CDT, 20:14:51 GMT
6/13/73

PAO This is Skylab Control at 14 hours 51 minutes Greenwich mean time. During the Change-of-Shift Briefing, we accumulated a little over 4 minutes of tape conversation through Carnarvon, Australia. We have about 8 minutes remaining until we reacquire through Guam so we'll take this opportunity to replay the accumulated tape.

CC Skylab, Houston. Carnarvon for 5 minutes.

SC (Garble)

CC I've got a few little notes here to tell you guys that I saved up so I wouldn't bug you through the EREP pass. And so if you're in a listening mood, I'll pass them up to you during here at Carnarvon.

SC Okay. We're standing by. And Dick, the star tracker - I changed it to AUTO and then had to go to my little VTS - and it did lock on something - I put the (garble) the details on B channel.

CC Okay. I had a note here. One of the notes that I had here was that during the EREP pass, the star tracker, after you left it, did get a lock-on, and the gimbal angle trace indicates it probably was Jupiter. So we think we made out okay on that one.

SC Okay.

CC The next one I have is the update on the solar activity. We had - during the evening we had three X-ray events last evening and they had generally - were associated with the gradual rise - of (garble) and X-ray background, but no optical flares were seen. And we think the probable source of this activity was active region 37, which has been a big X-ray producer in past rotations and is still very complex at this time.

SC Yeah, we'll drink to that.

CC I'm snowed in a flurry of papers here to find my notes. The next one I have is that later on today we're going to be sending you a short general message on some procedures we'd like to accomplish in the command module essentially. We've been running for several days with the primary coolant loop going. We've got a lot of thermal data. And prior to doing the power transfer, we'd like to switch to configuration where both CSM coolant loops are operating. To get some more thermal data, we're going to probably ask you to do this-oh, in a couple or three hours. It'll be about 5 or 10-minute task, and then we'll make a decision, based on the data today, as to whether or not we'll go back to this configuration prior to going to sleep tonight or in the morning.

SC Okay.

CC Next note I have was that during the evening we've been seeing some kind of steady degradation in the

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Time: 09:51 EDT, 20:14:51 GMT
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operation of airlock module transmitter alfa - the 10 watt transmitter. It's been giving kind of ratty data, particularly at low elevation angles. However, this moment, we are still able to - with other transmitters and by managing them correctly we're still able to get all our data so I'll just let you know we're working that problem.

SC Keep up the good work.

CC We also had - during the evening we had a glitch on the S055 (garble) unmanned operation, and we lost a couple of ATM passes with that experiment. However, we've troubleshot it. It's apparently working okay now and we don't think you'll have any problem today but if you do have any kind of a problem you might let us know on that. And I have one more note that I'd like to read to you real quickly. Incidentally we're about a minute from LOS. We're going to see you at Guam at about 15:00. And this is we found on the tape recorder about the hemispherical darkening of the H-alpha screen; we think that at one time the H-ALPHA telescope was pointed off Sun center prior to being zoomed in and a slight burn in occurred while it was off center and it probably remained visible. We think that's what you saw. This is normal and we expect that minor burns will occur from time to time, and they will wash off. And your channel B information is about 3 days old now. It may very well have washed off. But, at any rate, we think if it hasn't already gone away, it will.

SC What hemispherical darkening?

SC (Garble) you remember 3 days ago.

You're right. It did wash off.

CC Hey, okay. We're about to go LOS and we'll see you at Guam.

SC Roger.

PAO This is Skylab Control that brings us up to date on our tape replay and we'll be acquiring over Guam in about 3 minutes. We'll leave the line up for the Guam acquisition.

END OF TAPE

SL-II MC938/1

Time: 09:57 CDT, 20:14:57 GMT
6/13/73

CC Skylab, Houston; we're at Guam for 3 minutes.

SC Hi there.

CC Hi there.

CC Incidentally, Skylab, I see you've still got about 8 more minutes of night time; so I imagine you could - might could listen a little bit. The only other note that I had, which you've already probably noticed in - was a mistake in a message we sent you this morning which was the general message tell you about what the future flight plans were going to be for the follow-on days. The mistake is that the mission days 24, 25, 26 and et cetera are correct. However, starting with day 25, the day of the year is incorrect; it ought to be up by one. And if you take a close look at the message, I think you can figure out where the mistake is yourself. And we'll just leave it at that.

SC (Garble).

CC Roger. That's right. Day 25 should be 168 and right on down the line.

SC (Garble).

SC Say, Dick, the pass onto the P552551 (garble). Something internally must have happened in that (garble) because we started running it again when we had 0.01 vacuum - a good hard vacuum in there. And after we ran the electronics for a while, we quit outrunning the gun, and we had a great deal of difficulty in - you know, why did the gun on the ball bearing target - Because there's no doubt about it. It got shifted somewhere during the launch phase of the flight. There must - I don't know whether there's any electronics inside the vacuum chamber itself on the gun, but there must be. Because after it runs for a while, it just starts outgassing again, and we have a terrible time keeping a vacuum in there. And something must be broken loose or cracked open in there and - the outgas (garble) is electronically heated up for a while.

CC Roger, Pete. And they were listening there.

SC Well, that's the only thing I can think of. Because sure enough the gage is right after (garble) stood all night. It reads 0.01 when you get good vacuum in there. But then we let it sit all night with no juice on whatsoever. It left the thing in the vent mode and left the filament chamber open, and it took all night. And after we ran for a while this morning alining the gun up on the target, why it just started outgassing again. And we're letting it suck itself back down to a good hard vacuum.

CC Rog. I understand. We're about to go LOS. We're going to see you at Goldstone at 15:21, and we are reviewing now - general message that was sent up to you on a malfunction procedure for (garble) site 12. We'll see you at Goldstone.

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SC

Okay.

PAO

This is Skylab Control. We appear to have loss of signal now through Guam, and we're about 16-1/2 minutes away from Goldstone, California. Skylab now in its 432nd Earth revolution. Correction: 433rd. And during that pass over Guam, Pete Conrad reported some difficulty with the M512 experiment apparatus - the manufacturing in space experiment. He described the difficulty he was having in maintaining a vacuum in the system while it was operating and suspected that something might be outgassing during operation, interfering with the ability to hold a good vacuum. We'll be passing up some procedures to troubleshoot that particular experiment, in an effort to determine what the nature of the problem is and what might be done about it. At 15 hours 6 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-939/1

Time: 10:19 CDT, 20:15:19 GMT

6/13/73

PAO This is Skylab Control at 15 hours 20 minutes Greenwich mean time. And we're less than a minute now from resuming radio contact with Skylab through Goldstone, California, for a stateside pass that'll take the spacecraft through the coverage areas of Goldstone and Texas. And then we'll have a - almost an entire revolution with no stations contacting until we come back around on Guam for a very low elevation pass at Guam. We'll have television coming in from ground stations of Apollo telescope mount, ATM operations. We're in fact getting that video shipped in now. And this video is coming at the present time from Goldstone. We'll also have some ATM video from Texas as well as television that was dumped earlier of the M551 experiment, the metals melting activity. EGIL, the environmental systems engineer, reports that our electrical power situation aboard Skylab is unchanged. We're still getting a total capacity of about 3000 watts out of the single solar panel on the airlock - on the orbital workshop. And a 4000 watt capacity from the ATM solar panels. And in point of fact, we're actually drawing about 5000 watts of this 7000 watt capacity, roughly equal load sharing approximately 2500 watts out of each set of solar panels, the workshop panel and the ATM cluster, with the ATM cluster tending to carry a little bit heavier share of the load.

CC - - next 13 minutes, and be advised we just got a report of a new flare in active region 37.

CDR Roger, Houston. Are you ready for TV?

CC CDR, Houston. We have TV. We are going to take it away for just a couple of minutes so we can dump the VTR, and then we'll come back to it. But we - we do have good TV.

CDR Okay.

PAO And the TV we're getting at the moment is the viewfinder tracking system looking at the Moon.

PLT It's a little bit jazzed up due to some transporter jams. And I'm on channel B now, if those photo people want to try to get it early.

CC Okay. Thank you.

PLT Okay, apparently what the problem is is we're having a - a fairly high incidents of jams. I think this is our third or fourth one. We consider it high, anyway. And after you clear it and you run more film through, the transporter appears to function normally. Now, we've conjectured that maybe that emulsion - that something the heat did something to it, because it does seem a little difficult to pull film off the supply cassette. So it may be the fault of the film rather than the transporters.

CC Roger. I understand.

SL-11 MC-939/2

Time: 10:19 CDT, 20:15:19 GMT
6/13/73

MCC FAO, did you -
SPT Houston, SPT. Have any of these flares
been class M or better?

CC Stand by.
CC Skylab, Houston. On these flares of -
we have one in progress in 37, I just told you about; one
also in active region 27. And the one in 27 is faint and
we also don't think the one in 37 is going to get up to
class M.

SPT Roger; okay. We've had the alarm enabled
all morning and the console is manned now, of course. Our
PMEC count is not high. It's running around 300.

CC Okay. Thank you.
CDR (Garble)
CC Skylab, Houston; be advised that we get
the word from NOA that the activity that we reported in
active region 37 on that small flare is finished.

SPT All right.
SPT That transmission coincided with our flare
alarm for some reason.

CC Roger.
SPT The SPT and PLT are about to play face
the music.

CC I heard you were about to play, but I
didn't hear what.

SPT Face the music, we're doing M131
at our new rotation level.

CC Roger.
SPT I just hope my pant legs stay where they
are - not whipped off by the wind blast at this speed.

CC Hang on.
CDR (Garble) SPT now.
CC Affirmative. (Garble)
CDR He's got another (garble) or two.
CC Sorry, Pete, I didn't understand you.

CDR I said you got enough H-alpha 2?
CC That's affirmative. We'd like to go to
WLC now.

CDR Okay. Fuller when you want me to rotate.
CC All righty.
CC CDR, Houston. You can go ahead and proceed
with the rotation at your convenience now.

CDR Okay. Would you like it at slow rate times
1, or slow rate times 2, or fast rate times 1, or fast rate
times 2?

CC Slow rate times 1, Pete.
CDR Roger.

END OF TAPE

SL-II MC940/1

Time: 10:30 CDT, 20:15:30 GMT
6/13/73

CC Skylab, Houston for your information we are uplinking a message to you that is a malfunction procedure to M512 - for M551. However, based on your previous report, Pete, we're reconsidering now whether or not to actually go through this malif procedure or not and we'll talk to you about that at Vanguard. There is one point in the malfunction procedure also that asks you to look at the filament glow and we're not real sure you could see that with the beam on. But in order to be able to cover all bets we're going to go ahead and give you the message now and we'll talk to you a little bit later as to whether we'd like for you to perform it. You may have already done most everything in the message for us.

CDR Okay, we'll thunk it over before we start.

CC Okay, that probably helped. Probably if you just had time to take a look at it you could probably answer better than we could as to maybe where we ought to go next.

CDR Yeah, okay.

CC Roger.

CC CDR, Houston we've seen what we want now at this slow rate. We're willing now to go high rate times 10 and so we can, you know, get the rest of our downlink TV.

CDR Okay, Houston for that (music in background) (garble).

CC Roger. We'll take XUV monitor now. Be advised we're about 45 seconds from LOS. We're going to see you at Vanguard at 15:46 and we're going to dump the data tape recorder there.

CDR Okay, and here's the last shot (garble).

CC Sorry, Pete. We didn't copy that one. But we do have good television.

PAO This is Skylab Control. During that pass over the United States, Joe Kerwin advised that the crew was moving ahead with preparations to perform the M131 - human vestibular function experiment. Sounded as if they would be ready to begin that experiment somewhat ahead of the Flight Plan schedule. For the first run this morning the subject is Science Pilot Joe Kerwin and the observer will be Pilot Paul Weitz. Those roles are reversed this afternoon when Weitz will be the subject and Kerwin the observer for the M131 human vestibular function, using the rotating litter chair to determine if there are any significant effects produced by weightlessness on the vestibular function, the function of the otolith and semicircular canals, which have a great deal to do with spatial orientation. We're now 8 minutes from regaining contact through the tracking ship Vanguard off the coast of South America. At 15 hours Greenwich mean time this is Skylab Control.

END OF TAPE

SL-II MC-941/1

Time: 10:46 CDT, 20:15:46 GMT

6/13/73

PAO Skylab Control. We're about to acquire through the tracking ship, Vanguard. We'll stand by for communications with the crew.

CC Skylab, Houston. We're AOS at Vanguard for 8-1/2 minutes.

SC Roger, Houston.

CC CDR, Houston. Realize you're in the middle of a daytime pass. I have a couple of questions that-- for the M550 series people, that I'll just go ahead and read to you. And when you get a chance, if you do during this pass, you might give us a quick answer. One was - This morning did you use the nominal electron-beam gun procedures when you did the little run through that you described while ago? And secondly, was the plus 5 kV voltmeter reading less than 4? Over.

CDR The answer to the second question is it's reading more than 4. And the answer to the first question - Yes, we used the nominal procedures.

CC Okay. Good. We'll take those answers, and before you go LOS, we'll let you know whether we want you to do a terminate of M553.

SC I just can't do that troubleshooting procedure because other than not opening the CD power control (garble), but opening CD power (garble), we rechecked that problem last night, and everything else goes just the way this procedure should go to allow us to use the gun. Okay?

CC Okay, Pete. Stand by just a second.

CC Skylab, Houston. Re advised we've reconfigured after the EREP pass, and we've got the CBRM heaters and MDA wall heaters back on.

SC Okay.

CC Skylab, Houston. We're about a minute - 30 seconds from LOS. We're going to see you at Goldstone at 17:01. And Pete, we'd like you to do a M553, in place of the M551 terminate on your Flight Plan.

SC Will do.

CC Very good.

PAO This is Skylab Control. We've had loss of signal through the tracking ship, Vanguard. And we won't reacquire for 1 hour 4 minutes, until Skylab gets around to Goldstone on the 433rd revolution. At 15 hours 57 minutes Greenwich me time, this is Skylab Control.

END OF TAPE

SL-11 MC942/1

Time: 12:00 CDT, 12:17:00 GMT

5/13/73

PAO This is Skylab Control at 17 hours Greenwich mean time. We're 1 minute away from acquiring at Goldstone, California, after more than an hour of being out of station contact, while the things that we expect to hear from the crew, as we acquire, is a status report on the M553 experiment. The crew had been given some troubleshooting procedures for the S12 manufacturing and space equipment, and if they encountered no problems, they were to go ahead and press ahead with the M553 experiment, which is the sphere forming task. And we expect to get a report from them, as we acquire, as to whether or not they were able to maintain the desired vacuum in the facility and how the M553 experiment went.

CC Hello again, Skylab. We've got you at Goldstone for the next 5 minutes.

SC Goldstone! How about that. Okay.

CC Yes, sir, we - couple of items. We notice the star tracker is not locked up, and Ns appears to be bad. We think your pad on board is good. You might attempt to get a - acquire again. Also, on the CALROC, we're - they're having trouble in the countdown with the main video. They're checking it out. The last I heard, we were 25 minutes and counting down. And if they don't have it solved at about 6 minutes, we'll hold there, and I'll get back to you on that.

SC Okay.

SC There is, what will be to the medical people, some interesting information on channel B regarding the SPT's M131 run.

CC Okay, biomed GPS are copied, and he'll be looking for that.

SC And here's the SPT himself saying that the wardroom window, Dick, is really bad. It's - what used to be our friendly ice crystal is now a friendly water drop surrounded by 3 inches of fog. And it seriously interferes with photography through that window. I wonder if the ground couldn't help us by either recommending that we vent the window or that we turn the heater off, to let it refreeze.

CC Joe, we copied that, and EGIL B is thinking about that one.

SC Thank you.

CC Also, from Pete, we'd be interested, if he's this far along, in how he made out with 553. And also, we're very interested in the color of the parasol. One more thing - I'm not sure when you'll have time to copy, but I've got a pointing update for Pete for a JOP 12 Bravo this afternoon.

SC Okay, while I'm getting my notebook out, all I can tell you is that I got the first two balls melted, and the first one ran down and made a perfect sphere on the stinger. It's one of the ones that's not supposed to come off.

SL-II MC942/2

Time: 12:00 CDT, 12:17:00 GMT
6/13/73

And then as it started to harden, it sort of got the shape of an old balloon. The second one formed a pretty good sphere. The third one came off the sting. About that time - I think we got some problem with electronics heating up. At that time I got to the fourth one, which is retractable (garble). And it got lit and stopped firing about 1 second after it lit. And my vacuum's degenerating again and was at the plate 1; so I just - letting everything cool down and let it outgass some more. I don't know where this outgassing is coming from, but that's obviously what it is. There must be something back there in that electron (garble) again. And I'm going to wait until I've got a good hard vacuum again and let the electronics cool down and go back and do it some more.

CC Okay; copy.

SC And I'm ready to copy the pointing.

CC Okay. This is for JOP 12 Bravo, step 1, building block 22, scheduled I think at 18:21. It's RL minus 7500, U plus 550, R plus 500. And this is - the reason for this, Pete, is to clear that we've had some dispersion due to changes in this filament 79, and this should give us some better data.

SC Okay.

SC Hey, Houston.

CC Go ahead.

SC We just got around to putting those S190 desiccants in the (garble) today. How about reminding me - how about giving me that 190 desiccant thing again about day after tomorrow, will you please?

CC Roger; copy.

CC And, Skylab; Houston. We copy star tracker is locked on and looking good. We're about 30 seconds from LOS. Going to see you at Vanguard at 17:23, and we're going to dump the data tape recorder there.

SC Okay, Dick, this is the SPT. During the EVA, the parasol looked orange to me. If I hadn't known there was a controversy, I wouldn't have thought it was faded. It may have been faded a little.

CC What does it - I guess what we're interested in is have you looked at it this morning and does it still look orange?

SC It's in there right now.

CC Okay, fine. We'll see you at Vanguard,
Pete.

PAO This is Skylab Control. Skylab now out of range of the Goldstone, California Tracking Station and about 15 minutes away from Vanguard. During that pass over Goldstone, the crew was advised that there was a problem in

SL-II MC942/3

Time: 12:00 CDT, 12:17:00 GMT
6/13/73

the main video system on the calibration rocket scheduled to be launched from - in support of the ATM experiment, from White Sands, and that that countdown would continue to the 1 minus 6 point and hold if the problem had not been resolved. We do not have any further information on that calibration rocket situation at this time. We'll pass further updates along as they become available. Joe Kerwin also reported that the wardroom window, which previously had an ice crystal about the size of a dime in the middle of it, had now - the ice crystal had apparently melted. There was a drop of water, which you said was surrounded by fog and was interfering with photo operations, taking photographs through the window, and a request that the ground try to come up with some sort of solution to that problem. Kerwin and Pilot Paul Weitz are both making runs in the rotating litter chair, as part of the M131 vestibular function and motion sensitivity studies. And both crewmen are running today at increased rates of rotation. For Science Pilot Joe Kerwin, his rate of rotation today was being increased from 12-1/2 revolutions per minute up to 20, and Pilot Paul Weitz was increasing the rate of rotation during the motion sensitivity runs from 15 to 25 rpm. At 17 hours 10 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-943/1
Time: 12:21 CDT, 20:17:21 GMT
6/13/73

PAO This is Skylab Control at 17 hours 22 minutes, about a minute away from acquisition at Vanguard. And during this pass over Vanguard, we expect to pass further update to the crew on the Cal Rocket, Calibration Rocket launch from White Sands. The ATM officer is checking on the status of that launch now. Calibration Rocket is launched to gather data used in calibrating the ATM experiments, Apollo telescope mount experiments, looking at the Sun. And we're about - Well, we have acquisition now. And we'll be receiving radio contact through Vanguard for about 10 minutes.

CC Skylab Houston. We're AOS at Vanguard. We're - Got a 10-minute pass here. Be advised, we've got a subflare in progress in active region 37. We are in the count on the Cal Rock, with about 3 minutes and 30 seconds to lift-off. It's GO.

SC Hey, keep us posted.
CC Yes, sir. It'll ah - It'll lift off -
CDR It should lift-off during this AOS, and I'll let you know.
CC Okay.

CC Skylab, Houston. Cal Rock still in the count. Less than 2 minutes left to go to launch. And, now, Pete, if you get a chance this time, you might let us know what you found when you looked at the parasol.
CDR Still looks the same to me, Dick. Orange, but a little faded.

CC But it still has a definite orange color, huh? I talked to the guys on the phone while ago, and that's what they were really interested in. It turns out that if it still has an orange color, then it's degrading slower than we had originally planned. Or at least slower than our tests indicated that it might.

CDR Okay. I'm having my other expert to confirm my look. He's going to look right now.

CC (Laughter). Rog. No problem.
CDR On that subflare I can see 18,000 on detector 3 and about 5 to 6 thousand on detector 1.
CC Roger.

CDR Can I say it's - I would say it's pretty much open, (garble) can tell. Except one's about 3500 degrees (garble).

SPT Dick, SPT.
CC Roger. Go ahead.
SPT Okay. I'm in the command module looking out the window. And that corner of the parasol that we can see, which is looking at the Sun, is white-orange. It's the color of a Florida orange. Okay? Ready to eat.

SL-11 MC-943/2

Time: 12:21 CDT, 20:17:21 GMT
6/13/73

CC Rog. Understand. Thank you much, Joe.

SPT Rog.

CC Skylab, Houston. Be advised on the Cal Rock. We've recycled the counts back to about 5 minutes. We're now at about - less than 4 minutes in counting. The recycle was due to winds. Also, the flare in active region 37 appears to be declining. We also see 2 more subflares in active regions 31 and 27.

SPT Okay, Dick, SPT. I looked at looked at those along with Pete. And was disappointed in that I could not identify the flare in either XUV monitor or in the X-ray.

CC Rog. Understand.

CC CDR, Houston. For your information, we're getting a command module coolant loop message up to you. We're going to try to get it up here at Vanguard. If not, we'll get it at Hawaii. We'd like to get it scheduled in your Flight Plan, in the housekeeping time at 19:20. If that's not convenient, just let us know as soon as it's practical to do that. And there's one part of that message that I might make a comment on, and that is - part of it is to withdraw about five clicks of command module water. And we suggested using a contingency fecal bag. However, if that doesn't seem feasible to you, we'll just leave it up to your own judgement. You might use a shower bag or whatever you think best.

CC (Garble)

CDR Okay.

CC Rog.

CDR What you want the water for?

CC It's ah - We've been - We've been taking a lot of thermal data, and it turns out that the water lines come out of - right beside the glycol lines as they come into the command module. And we'd just like to get a hack on the way our thermal model has been doing. In other words, when you first try that, it's a line - If you're able to draw any water at all, it means that it's not frozen and that gives us some idea of how good our analysis has been. We expect it may be frozen, in which case, when you - At the tail end of this procedure you'll get to try it again after we've warmed it up some.

CDR Okay. Well, of course I had ice down there for a while. Then once we put the fans back on again it started getting (garble).

CC Okay.

CDR I take that back. I got both ice and water down there now.

CC Okay. Understand.

SL-II MC-943/3

Time: 12:21 CDT, 20:17:21 GMT
6/13/73.

CC Skylab, Houston. Be advised the Cal Rock has had a problem at about 8 seconds, they've recycled to 5 minutes, and are going to pick up the count as soon as possible. As far as far as flight planning today, we're going to assume the Cal Rocket is a GO. We're about 45 seconds from LOS, here. And we're going to see you at Hawaii at 18:32.

CDR

18:32, bye.

CC

Bye, bye.

PAO

This is Skylab Control at 17 hours 34 minutes. Our next station to acquire will be Hawaii. And that'll be 58 minutes from now. During the pass over Vanguard, Joe Kerwin reported the parasol sunshade as seen from the command module window appears to be still orange in color. He described the color as a light orange, about the color of a Florida orange, according to Kerwin. At 12:45 central daylight time, a little over 10 minutes from now, we'll have a replay of today's television. Television on the M551 experiment. And during that replay, Mr. Jack Waite, who is the Corollary Experiments Manager, and head of the Marshall Space Flight Center's Experiments Office, will be available in the JSC News Center briefing room, room 135, to describe the experiment and answer questions. That will be at 12:45 central daylight time, about 10 minutes from now, in the JSC news center briefing room. At 17:35, 17 hours 35 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC944/1

Time: 13:30 CDT, 20:18:30 GMT
6/13/73

PAO This is Skylab Control at 18 hours 31 minutes. We're coming up on the Hawaiian tracking station about 45 seconds from now. We'll stand by for CAP COM Dick Truly's call to the crew over Hawaii.

CC Skylab, Houston. We're AOS at Hawaii for 7 minutes.

SC Roger, Houston. Be advised (garble) active (garble) in PB22 and it's got through two complete and hung up with filter 3 the third pass I've got 12 pictures. That's in process of running again and all. (Garble)

CC Roger, Adam copied that. Be advised incidentally that the cal rock was a resounding success and there is no pointing update required.

SC Okay.

SC I'm halfway through PB22.

CC Roger that.

CC And also Skylab 1 note for the we fix anything SPT, we'd just as soon he keep his hands off our weather because it's still raining like the dickens.

SC Okay.

SC In medical school they said it wasn't your success rate but whether you cared.

CC (Laughter) Roger.

CC Skylab Houston for your information the block data pad and the CSM coolant loop procedures for the CDR are onboard.

SC Okay. I just got a star tracker update finally and that left me about 184 out in roll plus from 7500 I'm actually at 7685.

CC Roger.

SC John I'd like to talk to (garble) I presume that's what they want me to do.

CC Say that last again, Pete.

SC I elected not to roll to 75 - I started out at 75. I didn't have a star tracker lockon. When I locked on I was actually at 7685 and I elected to stay there.

CC Roger. Stand by 1.

CC Skylab, Houston, affirmative. We'd like to stay locked on at that number of 7685.

SC Okay.

SC We're going to have to inform (garble) again on 56. It looks to me like it's hung up.

CC Roger.

CC CDR, Houston, we confirm on TM that S056 is hungup at that position and there is not anything we can do at the moment. We'll just lose a little bit of data so press on.

SL-11 MC944/2

Time: 13:30 CDT, 20:18:30 GMT

6/13/73

SC Okay, gone to control lock.

CC Roger.

SC It took 8 pictures that time.

CC Roger.

CC Skylab, Houston; we're LOS in 30 seconds.

We'll see you at Vanguard at 19:02 and we're going to be dumping the data tape recorder at Vanguard.

SC Okay.

SC (Garble) it centers around 300 but it's coming up to 450 - 500 every once in a while. (Static)

PAO This is Skylab Control at 18 hours 42 minutes, out of range now of the Hawaiian tracking station and the next station to acquire will be the tracking ship Vanguard in about 20 minutes. The X-ray telescope the S056 experiment as mentioned during that pass over Hawaii apparently again hungup. This has been a recurrent problem with particular experiment and is believed to be electro-magnetic interference of some sort that causes a triggering pulse to fail to get in and the experiment stops midway through a data take, in this particular case, after acquiring 12 frames of data it unaccountably stopped. And the assumption is that it will work properly the next time that it's activated with a certain probability that the interference problem could again occur and shut it down midstream so to speak but this has been an intermittent problem and that is not a serious concern. The instrument is gathering data but it's periodically interrupted in its data gathering. At 18 hours 43 minutes Greenwich mean time this is Skylab Control.

END OF TAPE

SL-II MC945/1

Time: 13:58 CDT, 20:18:58 GMT
6/13/73

PAO This is Skylab Control at 18 hours 59 minutes, just about 19 hours. And we're about 1-1/2 minutes away from regaining radio contact with Skylab through the tracking ship Vanguard. A few minutes ago Flight Director Phil Shaffer questioned each of his flight controllers as to their status reminding them that we have a long period without contact after we pass over the Vanguard asking everybody to review the situation of equipment experiments and vehicle systems in his area of responsibility with an eye to the fact that we will be out of contact for about an hour, until the spacecraft comes back around to the Hawaiian station. Hawaii and Vanguard tracking station are the only two stations acquiring Skylab at the present time. We're now about 15 seconds away from regaining radio contact. We'll stand by for CAP COM Dick Truly's call.

CC Skylab, Houston we're AOS at Vanguard for 9 minutes.

SC Houston.

CC Skylab, Houston we just can't stand but ask you, we noticed that M131 shutdown and VTR looks like you're completed. We just wanted to make sure that you are.

SC That's affirmative. And (garble) 25 and we're recommending that we both go 30 the last time we try.

SC I'll be the only one left up here.

(Laughter).

CC Yeah, everybody is standing around with sort of an astounded look on their face and we copied your request.

SC They had the ATM guys thinking they had a subflare on 37 during the last half an hour or so. First time I've seen anything on X-ray.

CC Roger, stand by.

CC CDR, Houston. Negative we have not seen any flares of any kind in active region 37 in the last half hour.

SC Okay.

CC Skylab, Houston we're about a minute from LOS. We're going to see you at Hawaii at about 20:08 which is about an hour from now.

SC Roger. We got a look about 20 miles straight of Cape Horn, actually it's the first time the weather and the lighting has been such that we could even see down that way. We got a good look at it almost all the way to Cape Horn, but the last 20 miles was under overcast.

CC Roger, understand. I bet it was pretty.

SC It's all full of snow.

SL-II MC945/2

Time: 13:58 CDT, 20:18:58 GMT
6/13/73

SC I'll have that loop up for you when you
come up the next time.

CC Okay, EGIL copies.

PAO And that appears to be all through Van-
guard. We've had loss of signal now and as you heard
CAP COM advise the crew it'll be about an hour until we re-
acquire at the Hawaiian tracking station. One interesting
bit of information passed along by the crew on that pass
over the tracking ship Vanguard, the results of the M131
runs that were completed ahead of schedule today by Science
Pilot Joe Kerwin and Pilot Paul Weitz. This was to be a
day where both crewmen increased their rate of rotation in
rotating litter chair as a part of the motion sensitivity
test. Science Pilot Joe Kerwin had previously been running
at 12-1/2 revolutions and today that speed was upped to 20
revolutions per minute. Pilot Paul Weitz had previously
run at 15 revolutions per minute, and today the speed was
upped to 25 revolutions per minute, during which time each
crewman moves his head from side to side and then back and
forth in a prescribed manner in an attempt to determine at
what level first sensations of motion sickness or uneasiness
are induced. And both Weitz and Kerwin apparently had little
or no sensation on today's runs, despite the increase in
speed; and requested that the next time the runs be made,
both crewmen run at a speed of 30 revolutions per minute.
Kerwin also reported that Paul Weitz had 150 head movements
at the relatively advanced speed of 25 revolutions per minute.
We also heard Pete Conrad report that the crew had for the
first time in the mission a very good view of the lower part
or the southern part of the South American continent. Conrad
reported they could see almost to Cape Horn, all but the last
20 miles, which was covered by clouds. At 19 hours 13 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-947/1
Time:16:04 CDT 20:21:04 GMT
6/13/73

PAO This is Skylab Control Houston at 21 hours 4 minutes Greenwich mean time. During the past hour while the medical experiments review was underway the Skylab space station passed over three sites. They were in order, the Hawaii site, the Vanguard, and Ascension. We recorded about 3-1/2 minutes of air to ground during the pass over those three sites and will play that back to you at this time.

CC Skylab, Houston. Hawaii for 10 minutes.
CDR Hi there.
CC Hi there.
CDR Dick, I was able to draw water from the drain and (garble)

CC Okay, thank you much.
CC Skylab, Houston. We notice that you've been using the recorder, and we're a little -- we need to do a data recorder dump. Would that be okay with you?
CDR I just finished 92. Go ahead and dump it.

CC Roger, we got it. Thank you much.
CC Skylab, Houston. We're through dumping the experiment on the recorders. We're about 30 seconds from LOS. We're going to see you at Vanguard at 20:40.
CC Skylab, Houston. We're AOS at Vanguard for 7 minutes.

CDR Roger.
CC And we do have a data recorder dump planned for this pass, and if anybody's got time to look out a window, you're getting ready to get another pass over Cape Horn.

PLT Okay, thank you. Hey Dick, for ATM people, information. The performance of Building Block 13 with 82A (garble) didn't give us a READY light. I asked Peter before. Pete says that does do that on occasion.

CC Roger. Copy.
CDR Unfortunately Richard, darkness has moved over and I can just barely make out the land (garble)
CC Rog. Sorry about that.
CDR (garble)
CC Didn't quite copy that one. We can hear the bicycle riding in the background though, and Story and I are sitting here looking at it on the (garble)

CC Skylab, Houston. We're 1 minute til LOS. We're going to see you at Ascension at 20:56. And one note for the PLT. If you have a chance during this night period between ATM runs, you might whiz over to the S009 and change Beta angle for us on it to plus 5.
PLT Yes sir, (garble)
CC Roger.

SL-II MC-947/2
Time: 16:04 CDT 20:21:04 GMT
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CC Skylab, Houston. We're AOS at
Ascension for 4-1/2 minutes.

CDR Roger.

CC Skylab, Houston. We're about 45 seconds
from LOS. We're gonna see you a long time from now at the
Vanguard at 22:17, and we plan to dump the data recorder
there.

PAO That completes the tape portion of the
last track, that is the end of the 435th revolution, and
the beginning of the 436th revolution. The crew during
most of that time was involved in a medical experiment,
identified as the M092, lower body negative pressure, and
the M171, metabolic activity, where they ride the stationary
bicycle, so to speak, or a bicycle device that's stationary.
We'll acquire the Skylab space station again at the Vanguard
tracking site in 1 hour and 8 minutes. Until that time,
this is Skylab Control at 21 hours 9 minutes, Greenwich
mean time.

END OF TAPE

SL-II MC-948/1
Time: 17:16 CDT, 20:22:16 GMT
6/13/73

PAO This is Skylab Control, Houston at 22 hours
16 minutes Greenwich mean time. We're about a minute away
from the Vanguard tracking station and we'll standby for the
radio communication with the Skylab space station crew through
Vanguard. Then we'll keep the line up through Ascension.
We have approximately 10 minutes at each station for a pass.
CC Skylab, Houston. We're AOS at Vanguard
for 10 minutes.

SC That was our equivalent of a Roger.
CC Roger.
CC That was my equivalent of a squeak.
SC Okay.
SC You really are on days, but I figure you
don't get off at all. Is that it?
CC That's right.
CC Skylab, Houston. I have one note for the
CDR this pass. In this evening's flight plan we'd like to
delete housekeeping CM4. There are no more dumps required.
In the command module, though, we would like, at your con-
venience to go up there and check hydrogen tanks one and two,
fans and heaters all to AUTO.
SC Okay, H2 one and two, should be tank one
and two, fan heaters to AUTO and we'll skip command module
four.
CC That's right. That ought to be probably
three switch throwings and one verify, but at any rate, they
all end up in AUTO.
SC Okay. If you're wondering why I answered
instead of Pete, we had a mutiny this afternoon and I've taken
over.
CC Roger.
SC I've declared Skylab a U.S. Naval Hospital.
CC Okay, just keep us informed, Captain.
SC Roger.
SC (Garble)
CC Skylab, Houston, we're a minute and 15
seconds from LOS. We're going to see you at Ascension at
22:30. Your summary flight plan for tomorrow is onboard in
the teleprinter. And the detailed flight plans are going to
be uplinked at Ascension.
SC All right. Thank you.
CC Roger.
PAO During an earlier pass, the Commander, Pete
Conrad reported that he had drawn water from the secondary
loop and quote: "It looks fine", was his quote. That was
an engineering experiment in the CSM, designed to improve
the command module which is quiet now, to improve its thermal

SL-II MC- 948/2

Time: 17:16 CDT, 20:22:16 GMT
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module. Thermal model. In drawing the water from the secondary coolant loop the ground was able to verify that the line was not frozen. There had earlier been some indication that perhaps the line might be frozen, but with the water having been drawn we verified the thermal model and set any fears that we may have had to rest. We are planning a Change-of-shift briefing starting at 7:00 p.m. central daylight time involving Phil Shaffer, who is the off-going Flight Director. And that briefing will take place in the news center briefing room. We'll keep the line up for this pass over the Ascension tracking station. Expect to have radio communication with the crew in about 15 seconds.

END OF TAPE

SL-II MC-949/1

Time: 17:30 CDT 20:22:30 GMT
6/13/73

CC Skylab, Houston. AOS at Ascension for
10 minutes.

CDR Houston, I see that tomorrow night is
our go to bed early night.

CC That's affirm. We're gonna start to
get you going to bed tomorrow evening, then wake you up
early the next morning and then about another day and we'll
be all set for the rest of the mission, as far as good night
and hello time.

SPT Yeah, we may get up a little early to-
morrow morning, otherwise we won't be sleepy when Houston
says be sleepy. But other than that, it looks like a neat
flight plan. I may show it to the excaptain to see if he
approves of it.

CC Okay. You might also note -
SPT (garble)

CC You might also notice that tomorrow
night you only get 7 hours sleep.

SPT That's about all we've been taking.
CC Understand.

CDR Some of these guys keep coming back
late with the Command Module.

SPT Well, the first thing I was gonna do
was good Navy nurses up here.

CC Skylab, Houston. We're a minute from
LOS. We're gonna see you at Guam at 23:14. We got the
CDRs detail on board. We'll get the other two up at Guam.

SPT The PLT says to hustle.

PAO The Skylab space station has moved be-
yond the range of the Ascension tracking site. We will
acquire them again in about 30 minutes at the Guam tracking
station. At 22 hours 41 minutes Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-II MC-950/1
Time: 17:50 CDT 20:22:50 GMT
6/13/73

PAO This is Skylab Control, Houston, at
22 hours 51 minutes Greenwich mean time. The press conference
that was - or the change of shift briefing that was announced
earlier to begin at 7 p.m. central daylight time, appears now
that we'll be able to start that at 6:30 p.m. with the off-going
Flight Director Phil Shaffer. To repeat, change of shift
briefing, 6:30 p.m. in the News Center Briefing Room in
building 1. At 22 hours 52 minutes this is Greenwich mean -
this is Skylab Control.

END OF TAPE

SL-II MC-951/1

Time: 18:13 CDT, 20:23:13 GMT
6/13/73

PAO This is Skylab Control, Houston, at 23
hours 13 minutes Greenwich mean time. A minute away from
acquisition of the Skylab space station through the Guam site.
We'll stand by for air-to-ground through Guam.

CC Skylab, Houston, AOS 10 minutes, Guam.

SC Hello, Houston.

SC Houston, PLT.

CC Go, PLT.

SC Okay, for ESC people, about an hour ago

we had a mol sieve PCO₂, OUT HIGH CAUTION. It happens to be on
sieve B which is not active. It's reading - when I looked
at it then it was reading about three parts IN and about four
parts OUT.

CC We copy that.

SC Houston, SPT.

CC Go, SPT.

SC It says on my TM schedule TV downlinks

about now. Does that really mean VTR or do you want it real time.

CC Stand by a half, Joe.

CC SPT, that is real time. The transmitter is

still warmed up and we'll give you a GO on it.

SC Okey doke.

CC And, SPT, be advised we're GO on that now.

SC Okay.

CC PLT, Houston.

SC Go ahead.

CC Paul, if you haven't already done it on
panel 207, you can inhibit the MOL Sieve B, PPCO₂.

SC Yeah, we already did that Bill.

CC Copy.

END OF TAPE

SL-II MC-952/1

Time: 18:20 CDT 20:23:20 GMT
6/13/73

CC SPT, Houston.
SPT Go ahead.
CC On the coronagraph you should be able to see Saturn at fourth solar radii, southeast and it's moving west.
SPT Okay, four radii southeast, thank you, we'll look next time we get sunset.
SPT Houston, SPT. I think we had Mercury in the coronagraph a few days ago. Would you verify that? I saw something, I thought it was Mercury.
CC Okay.
JC Skylab, LOS in one minute. Vanguard AOS at 23:54. And we will be dumping the tape recorder at that time. Also, Joe, if it's convenient, there's no rush on this one, on panel 20G, circuit breaker MDA/OWS heaters control 2, should close that at your convenience.
SPT (garble)
SPT Houston, the heaters control breaker 1 is already closed, we're closing 2.
CC Copy that.
PAO Communication with the Skylab space station has ended over the Guam tracking site. We will pick up the space station again at Vanguard in about 28 minutes. In the meantime we are ready to proceed with the change of shift briefing in the News Center briefing room with the off-going Flight Director Phil Shaffer. At 23 hours 25 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-953/1

Time: 18:53 CDT 20:23:53 GMT
6/13/73

PAO This is Skylab Control Houston at 23 hours 53 minutes Greenwich mean time. We're about 60 seconds away from acquisition of the space station through the Vanguard tracking site, and following that pass, which will last about 10 minutes, we'll brush Ascension and go on up through the Canaries and the Madrid site. It is our intention to leave the line up from Vanguard through the Madrid site. And we're standing by for a call from Capcom.

SPT

Houston, are you there?

CC

Go Skylab.

CDR

Hey Bill I tried to run that 553, and the first thing was that it didn't go the way it was supposed to go, and the stingers would retract from the bolt metal and the bolt metal would stay right there. It wouldn't go anywhere and we shut the gun down. That went on for about five of them, then I ran into problems again with the five KVAs. They have stuck on and right now nothing will turn it off except pulling the main bat breaker. And that's where we stand, so if they want to think about it, let me get two of them scheduled for tomorrow. If they want to think about it tomorrow and give me some stuff to do with it tomorrow, fine, if not, I believe that will be scratched. That's probably it.

CC

We copy that Pete.

PLT

minutes?

Houston, PLT. You got a couple of

CC

Go ahead, PLT.

PLT

Okay, we're all of the opinion that we're not getting the flow out of the hot water heater in the waste management compartment that we did at first. Now I've checked the system. We got 35 PSI coming out of the (garble) so I checked that with a portable water bottle, and we got good flow out of the tanks feeding the portable water in the wardroom. And one time when we had a shower day, which was about 4 days ago, I guess, we filled the shower water bottle, and all we could get in it then was 20 pounds PSI, in the shower water bottle. Now, the malfunction procedures, don't really leave us any place, except changing the outlet fitting, which we haven't done yet. That's about where it stands. It's plenty satisfactory for us. What we didn't want is the next crew to get stuck with a system that didn't work and not the right parts on board. So any of that stuff you want us to look at, let us know in the next couple of days.

CC

We copy that, Paul.

PLT

Okay.

END OF TAPE

SL-II MC-954/1
Time: 18:58 CDT, 20:23:58 GMT
6/13/73

CC And Skylab, if it won't interfere with anything, there a couple of news notes here.

SC Oh, we're just sittin down to din-din.
Go ahead with the news.

CC Okay, the President's going to speak this evening and outline a new economics controls. There's an indication that the policy will include strong action, but not a total freeze on wage and prices. Power cuts are continuing in Chicago and New York as a heat wave pushes temperatures to record highs. And the rains came again today in Houston. It's not raining at the moment, but we still have a severe thunderstorm watch. We've had 10 inches since Monday and tomorrow's forecast is 40 percent. And we have checked and you people have no problems with your houses and such. Joe won't need to add any water to his swimming pool for a day maybe. And the - -

SC Okay, thanks for checking.

CC - prices were down on the stock exchange today. Dow Jones 11-1/2 points down with an average share value down of 19 cents. There was an amended cease-fire agreement signed today in Paris and Kissinger's hoping that this agreement will finally bring about a true peace. The 1973 U.S. Open starts tomorrow in Oskmont, Pennsylvania, with Jack Nicklaus, the favorite, Arnie Palmer, and Snead also added.

SC Okay, thank you very much.

CC SPT, the astronomy experts here have checked and you shouldn't have been able to see Mercury a few days ago, you might follow that one up, Joe, and get a planet named after you.

SC Well, it must have been broken.

SC In fact it was probably my own planet
(garble)

CC Roger.

SC That's the planet of the apes.

CC LOS in one minute, Ascension at 00:12, and as we mentioned, the flight plan's onboard. The details should be onboard, and the evening questions should be onboard by this time.

CC And correct that, the next AOS will be at Canary at 00:14.

SC Okay, and as soon as supper's over we'll start our homework.

END OF TAPE

SL-II MC-955/1

Time: 19:07 CDT, 21:00:07 GMT

6/13/73

CC Skylab, Houston, AOS for 10 minutes, Canary.
SC Roger, Houston.
CC And PLT, Houston.
SC Yep.
CC We'll be doing some unattended ATM experi-
ment OPS. That'll be S055 at 02:00 G.m.t. This is for the
crew rest period and they are not on the pad.
CC That's for information only.
SC All right. Thank you.
SC Have to request that you don't break any-
thing.
CC Copy.
CC And will comply.
CC Skylab, LOS one minute, Guam 00:53.
SC You guys just pick out (garble) TV passes
for us today. We've been over water and these lousy stations
all day today. Will you guys change your orbit tomor-
row?
CC We'll work on that Pete.
CC A lot of Houstonians been over water all
day today.
SC (Laughter) It sure sounds like it.
PAO The Skylab space station has moved out
of range of the Madrid tracking site. Next acquisition will
be at Guam in 24 minutes, and at that time we should have
the evening status report transmitted to us by the Commander.
At 29 minutes into the new day, G.m.t. day, that is, this
is Skylab Control.

END OF TAPE

WSL-II MC-956/1
Time: 19:52 CDT 21:00:52 GMT
6/13/73

PAO This is Skylab Control at 52 minutes Greenwich mean time. About 45 seconds from acquisition of the space station at the Guam tracking site. And we expect at that time that the Commander will give us a status report on the consumables that were used today. Food, photo and other consumables. We'll stand by for the call up from Capcom Bill Thronton.

CC Skylab, Houston. AOS 6 minutes Guam.

CDR Thank you, Houston.

CDR Ready for the TV (garble) on the coronagraph, Houston?

CC That's affirm.

CDR Well, you can have it.

CDR Houston, are you ready for the evening report?

CC That's affirm, Pete. We're standing by.

CDR Okay. The CDR ate everything plus two butter cookies. The SPT ate everything and had a half a salt and, excuse me, the CDR also had his 1-1/2 salt. And the PLT ate everything but his bread. He had 9 salt. And the photo log today: 164 16 millimeter; first line ETC prep, with the remark X-porter 03CX is probably not film. Charlie India 25, 67, Mike Tango 11, EREP rest of U.S. C 108, 00, C107;

CC We copy, Pete.

CDR Okay, the next one is EREP south US, South America, Charlie India 25, 00, Mike Tango, 05, and mark on Mike Tango 05, that that film is to be developed for exterior. M151-1 Charlie India 10, 5, Charlie India 08; M092/171, SPT, M151 Charlie India 10, 33, Charlie India 08; M553-1 Charlie India 05,60, Charlie India 08. In the 35 millimeter world and these are the correct numbers. I think I gave some bad ones last night. Charlie India 28, frames counted,22. Charlie India 29 is complete. Charlie India 30, 1 and 0 frames. 70 millimeter: Charlie X-Ray 06,099. ETC 378 (garble) is BW01, (garble) S27. EREP Set Papa is completed. Drawer A configuration, X-porter 02. Charlie India 05, 16. Charlie India 01. A2 is X-porter 03, Charlie India 06, 62, Charlie India 03. 83 is X-porter 06, Charlie India 10, 33, Charlie India 08. 84 is X-porter 05. There is no transport on it, no film. Charlie India 25 for takeup. Floating, Exporter 07, Charlie India 09, 100 percent, Mike Tango 03. There were no flight plan deviations. You're aware of the M553 problem. No stowage changes. That's it.

CC We copy, Pete.

CC PLT, Houston,

PLT Go.

SL-II MC-956/2
Time: 19:52 CDT 21:00:52 GMT
6/13/73

CC We're seeing a flare in X-REA now. That's
just for info. We want you to continue as scheduled.

PLT Okay.

CC And CDR, Houston.

CDR Go ahead, Bill.

CC We sent up some questions in the general
message EVA data on Pad 2024 today. If these were put on
Channel B, could you give us an estimate about the time
of day.

CDR No, I haven't got the questions yet, Bill
let me get them and we can probably answer them for you in
real time if you need them.

CC Okay, and that was yesterday's pad that
they came up on.

CDR Oh. Okay, wait a minute. I'll have to
look for those.

CDR I don't know, you got the questions there?
Ask me the questions.

CC Sorry, Pete, say again.

CDR Have you got the questions there? Ask
me the questions. I got the thing filed someplace.

CC Yeah, I've got them, Pete. You want me
to read them to you?

CDR Yeah, read me the first one.

CC Okay, clarification of previous question.
Were EV 1 and 2 already in their suits, when EV 3 activated
the SUS loops on page 1.2-9 of the EVA checklist.

CDR Yeah, we answered that last night. The
way we remember it is Joe and I were suited, but we did not
have the PCUs on and EV 3 activated the loops, which were
attached to the PCUs and they were flowing when we put them
on.

CC Okay, Pete, I'm sorry, you answered that
one last night and that's the remaining five that we're after.

CDR Go ahead with the next one.

CC We are presently assuming that launch
will be with suits off in the OWS between EVAs and you also
confirmed that yesterday.

CDR I confirmed that we probably would not
take the suits off. It's too much trouble.

CC We're going LOS here. We'll have you
again at Honeysuckle at 01:04.

CDR Okay.

PAO We have a short period of time when we're
out of communication with the spacecraft. About 3 minutes.
So we'll just keep the line up and wait for the next call
up from Capcom, Bill Thornton.

END OF TAPE

SL-11 MC-957/1
Time: 20:01 CDT, 21:01:01 GMT
6/13/73

CC Skylab, Houston, AOS for four minutes.
CC PLT, Houston.
SC Go.
CC We need a STOP on S052 and STANDBY POWER.
CC Skylab, LOS in 45 seconds. We'll be AOS
Canary with 01:52 in med-conference.
PAO We have had loss of signal with the Skylab
space station through the Honeysuckle tracking site. We'll
acquire again at the Canaries. At one hour nine minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-958/1
Time: 20:51 CDT, 21:01:51 GMT
6/13/73

PAO This is Skylab Control, Houston at one hour 51 minutes Greenwich mean time. The space station is about 45 seconds away from the Canary - Canary Islands tracking site. At this time there will be the daily medical conference. Following the Canary pass we'll acquire through the Madrid station, so we expect to get some live air-to-ground. We'll stand by for the call from the ground here up to the space station by Cap Com Bill Thornton.

SC Was that LOS, Houston?

CC Negative, Skylab. We still have about eight minutes here.

SC Okay, our poor surgeon got cut off prematurely then.

CC Want us to try to get him back on for you, Joe?

SC Yeah, would you please, Bill?

CC Wilco.

CC They say it's going to take a - -

CC It's in work. It's going to take a second to do it.

SC Okay.

CC Skylab, Houston. We have you for about three more minutes here. Be advised that we're configuring rate gyros for sleep, one and two on line, 3's backup.

SC Roger, ask the CDR if he wants me to give the answers to the evening questions on B channel.

CC Copy.

CC And offer my apologies to the CDR for bringing up last evening's questions again. That one slipped by.

SC He Did he give the same answers that he did last night?

CC He was doing pretty well as far as we went.

SC Okay.

SC It wasn't answering the questions twice, Bill. It was your interrupting me eating my butter cookies which is fatal to anybody up here in the spacecraft. Nobody's bothered me while I'm eating my butter cookies.

CC Yeah, those things save your life once in a while.

CC We're about ready to - someone bestowed the title of the "Butter Cookie Monster" on me in Sweat. We're about ready to give you that title now, Pete.

SC Yeah, I'm afraid I've taken it over.

SC Skylab has replaced Grand Rapids as the "Butter Cookie Capitol of the World".

CC Copy that.

SL-11 MC-958/2

Time: 20:51 CDT, 21:01:51 GMT

6/13/73

SC Well, I'm the guy that kept telling everybody that I didn't think anybody was going to eat anything here, and I've been eating the whole spacecraft. Man, I can't get enough.

CC Very good.

SC But, I think you have (garble) due to the fact that we do a reasonable amount of physical work every day.

CC That's the most interesting of all. CDR, on this 553 problem, when you went to READY reset, did the READY light come on?

SC Yes, it does.

CC Copy, and one more. When you went to a READY reset do you remember whether the cameras stopped running?

SC I can't answer that question, but it has been full of film.

CC Copy.

SC If you remember - well, he may not. Way, way, back at the beginning we gave a little briefing for the other crews that the cameras are extremely quiet up here in comparison to on the ground. They don't clatter around anywheres near like they do on the ground. And it's very difficult to tell when they're running.

CC We copy that. And we'll be LOS here in about a minute. We will have you again at Carnarvon at 02:32. Hey, Pete, would - be interested in any further comments on the relative amount of work you might be doing up there and what parts of the body are getting it?

SC Well, that's difficult to say, Bill. I think that the fact that you're like changing the tape recorder or something, you still have to brace yourself, but we do not have like triangles up there that you can relax in. So, you're continually bracing your legs or your arms or your body in some manner or another to do a task. Now, we're obviously not - still not coming anywhere near as close to a one-g output for a total day, by any means, but I think everybody also agrees up here. We look forward to getting on the bike and exercising because it really does make you feel good. Makes you - makes the ole blood pump and - I don't think anybody's missed a day on the bike (garble) And as I say there's other(static).

PAO And with that conversation on the amount of physical exercise engaged in by the Skylab crew, space station moved out of range at the Madrid site. And the air-to-ground slowly faded in an easterly direction. At two hours seven minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-959/1

Time: 21:22 CDT 21:02:22 GMT
6/13/73

PAO This is Skylab Control, Houston, at 2 hours 22 minutes Greenwich mean time. With information on tomorrow's Earth Resources pass, identified as EREP pass number 11, for June 14th. Incidentally, that pass will be a repeat of the same ground track that we started the series of Earth Resources passes. And tomorrow's pass is the last of this Skylab - of this current Skylab mission. The pass commences over Oregon, heads in a southeasterly direction over White Sands, over the Rio Grande Valley in south Texas, across Mexico, central American, Guatemala. In Guatemala, the Skylab team will attempt to photograph an active volcano using the S191 infrared spectrometer. The pass is approximately 7,000 statute miles in length, ending in the vicinity of Puerto Alegre, Brazil. We're about 8 minutes from acquisition at the Carnarvon site. We expect the crew to get their good night on this pass, which will take us over Carnarvon and also Honeysuckle. We'll take the line down now and come back up in roughly 8 minutes. At 2 hours 24 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-960/1

Time: 21:32 CDT 21:02:32 GMT

6/13/73

PAO This is Skylab Control at 2 hours 31 minutes Greenwich mean time. 45 seconds from acquisition through the Carnarvon tracking site. We will stand by for radio communication with the crew, on what we expect to be the last pass before they get a good night.

CC Skylab, Houston. AOS for approximately 15 minutes.

SC Roger, Bill.

CC And, Pete, we need someone to go up to the CSM to turn off the ECS RAD heater secondary switch on panel 2. We show an increase CSM current that would correspond to this.

SC Okay, you want to turn off the heat - the secondary radiator heaters, right?

CC On the ECS, that's right, it's on panel 2.

CC PLT, Houston.

PLT Yes, sir.

CC You reported that a SO82 OPERATE light was working nominally this morning. Has it continued to do that?

PLT Negative.

CC Copy.

SC Okay, Bill, the ECS radiator heater secondary is in fact off.

CC We were afraid that might be the case.

SC The primary heater's off too.

CC We copy.

SC Okay, what else we got that pulls that kind of current.

CC That's what we're looking at Pete, standby for a second.

SC Okay, I'm the only guy that was in here today. And, I powered up the secondary loop in accordance with your instructions and I don't believe I hit any other switches.

CC Copy.

SC Houston are you aware that the PLT turned the hydrogen heaters to AUTO today.

CC That's affirmative.

SC And the fans?

CC We copy.

END OF TAPE

SL-II MC-961/1

Time: 21:38 CDT 21:02:38 GMT

6/13/73

CC We're still looking here Pete.
CDR Okay.
CDR How much can you see, Houston? (garble)
CC 17 Pete.
CDR Seventeen amps?
CC And Pete, that's varying. That's not
steady. It's a cyclic increase apparently.
CDR How long you been seeing it?
CDR Hey, Houston, CDR.
CC Go. CDR.
CDR The only thing I know that we activated
was the H2 heaters and the H2 fans. How about if I cut them
off one at a time. Maybe you got a short in something.
CC Standby Pete, we're -
CC Pete, would you turn those off and let
us watch down here, please?
CDR Okay. H2 heater 1 AUTO going OFF.
CC Copy.
CDR Hey, did you see anything with 1 OFF?
CC Pete you can turn the fans off now.
CC Pete, we didn't see any abnormal changes
on that. Could you bring them back to the original con-
figuration?
CDR Okay. They're all on. H2 heaters to
AUTO, and H2 fans to AUTO.
CC Copy.
SPT Hey Bill, the on board current indica-
tion out of the fuel cells are not out of line with what
they've been for the past two weeks, on board.
CC We copy.
SPT Where there was 18 amps per fuel cell,
with those hydrogen heaters and fans off, and when he turned them
on it came up to about 20 amps per fuel cell.
CC We copy.
SPT You're also aware that we got the secondary
coolant loop on - off.
CC We copy.
CDR Pete, we're seeing 17 amps. We can't
explain. We'd like for you to back out of the secondary loop
and that's 2031 Bravo message that's on board. And we're
going LOS here in 30 seconds. We'll - for the bedtime.
CDR Okay. You want us to back out of the
secondary loop deal. Right?
CC That is affirm.
CDR Okay. It didn't work. And again, for
more information, Houston, there's no on board indication

SL-II MC-961/2

Time: 21:38 CDT 21:02:38 GMT
6/13/73

of anything being different. The (garble) indications are the same, and the oil flow to the fuel cells are the same as they've been.

CC
thing down here.

We copy. And we're seeing the same

CC
increase that we can't explain here is the reason for it.

PAO
of range of Honeysuckle tracking site. At 2 hours 49 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-11 MC-962/1

Time: 22:04 CDT, 21:03:04 GMT

6/13/73

PAO This is Skylab Control, Houston at three hours four minutes Greenwich mean time. As the spacecraft left - or as the spacecraft was in communication with the Honey-suckle tracking station there was some air-to-ground relating to a spurious signal of approximately 17 amps, an intermittent signal that had been registering on an ECS - current on an ECS radiator heater in the command service module. Earlier today, the flight controllers here at Mission Control Center requested of the Commander, Pete Conrad, to check into the secondary coolant loop in the CSM in an engineering experiment which was designed to improve the CSM thermal model. Pete Conrad did and reported back that the coolant loop was operating well at that time. Subsequent to that, we discovered particularly on these last few passes, this intermittent spurious signal for which there was no explanation, so we asked the Commander to return to the CSM to verify that the switches were indeed in the OFF position. And the air-to-ground that followed indicated that the switches were, indeed, in the proper position. In as much as there was not a clear explanation as to why the spurious signal, the spurious intermittent signal, was showing up, we asked the crew to back-out, so to speak, or in another way, inactivate that secondary loop which had previously been active. And with that the crew then was given a good-night for the evening, so the spacecraft, or the CSM, essentially is in the mode that it was in days previous with the secondary loop inactive, and the primary loop active. We have the daily medical bulletin as written by Dr. Charles E. Ross. He writes: "The Science Pilot, Dr. Joseph Kerwin, performed complete physical examinations on the Commander and the Pilot, confirming that both are in good physical condition. Dr. Kerwin stated that these were red flight physicals since they were performed in flight. The crew feels very confident in their abilities to perform the remaining mission and we don't feel we have any problems. We don't anticipate any more conversation with the crew tonight, for they are in the pre-sleep activity and will probably be hitting the sack shortly. I have a correction with reference to the information on the EREP pass for tomorrow. We are - the crew will look for a cinder-cone in Nicaragua, Sierra Negro, Nicaragua, and not an active volcano in Guatemala as previously reported. At three hours nine minutes Greenwich mean time, at the end of mission day 20, this is Skylab Control.

END OF TAPE

SL-II MC-963/1

Time: 06:09 CDT, 21:11:09
6/14/73

PAO This is Skylab Control at 11 hours 9 minutes Greenwich mean time on the 21st day of the mission. And we're about 2 minutes away from Hawaii where CAP COM Hank Hartsfield will be putting in a call to the crew to wake them up to get them started on their day, which today includes EREP 11, Earth Resources Experiment Package 11, which will be occurring on the 446th and 447th revolution. The spacecraft is on track 20. This will be a 28-minute pass starting over Oregon, as the spacecraft comes in over Goose Bay, down across the four corners area and through - above Albuquerque, Brownsville, out over the Gulf of Mexico, and down across South America, ending about 500 miles south of Sao Paulo, Brazil. Also during the day, we'll have runs of the M072, M171 medical experiments, the lower body negative pressure, and the metabolic analyzer, using the bicycle ergometer. Also extensive ATM, Apollo telescope mount, operations, today. The M092/M171 experiment subject will be Pilot Paul Weitz, and the observer for the M092/M171 run will be Commander Pete Conrad.

CDR (Garble) you there?

CC Good morning. How are you this morning?

CDR Early to bed, early to rise. You know all that good jazz, but besides that, we never believed it. The circadian rhythm is better - never follow their own plans, but we thought we'd get up early this morning so we'd be in better shape to go to bed early tonight.

CC I thought maybe that might be what you were doing. We noticed somebody was up stirring around here about 45 minutes ago.

CDR Yeah, but we all got up about 10:00. Hank, the EREP VTS pad for that - not VTS, it should be ETC pad for the normal EREP pass - not the cal - got all garbled. So did the shopping list message. This is the first time we've really gotten a garble on both these messages, plus the last part of the EREP pad - second EREP pad that was sent was also garbled. It's not that lines are transposed - it, it's just flat screwed up. And also you refer to a general message 2120. Has that ever been transmitted?

CC It should be. Stand by and we'll check it. Let me make sure I got it correct now which ones are garbled. You say the ETC pad and the shopping list - two pads are garbled. Is that correct?

CDR That's correct. And the last part of the second EREP pad you sent. Now I've got a complete set of EREP pads, but you retransmitted the last one the second time for some reason. You got about halfway through that and it's all garbled too. I don't think I need that one. And it has the same message header on it as the first one did. I've got an EREP pad with a message header "2113B1" on it, and that's

SL-II MC-963/2

Time: 06:09 CDT, 21:11:09 GMT
6/14/73

okay. Now you had sent that one again, for some reason, and it was all garbled at the end.

CC Okay. Well, we suspected something like this might happen, Pete. We had a glitch at one of the sites when we were uplinking; so we kept all these things in the MOC here just in case. So those pads around the time we had the glitch, we're going to retransmit them.

CDR Yeah, message 2120 refers to the quiescent switch configuration. It's something or other, something or other. I don't think we ever got any 2120 complete, unless it was taped yesterday or something. I don't remember it.

CC Okay, 2120 should have been the last message up, Pete.

CDR Okay. Well, that didn't come through. Unless you transmitted something in the last 45 minutes. You better look.

CC Roger. We have.

CDR Okay.

CC Skylab, Houston. We're going to send to you then the ETC pad, the shopping list, and the EREP OPERATE pad. Does that agree with your list?

PLT Yes. Go ahead.

CC Okay; it may be stateside before we can get those up.

PLT That's all right. What's the status of our CSM unknown 17 aft card grade, Hank?

CC Okay, we've got a message up concerning that. I guess what it amounts to is we think that the switch there has got a short in it or either the secondary coolant circuit has. We've looked at all the telemetry, and pretty well tracked it down that it is the heaters coming on in the secondary coolant loop. And that goes back and correlates with the glitch we had a lot earlier in the mission. Remember when we had the current spike. So we're pretty sure now that the switch is shorted on. In other words, the system's on - the heaters are on even though the switch is off. So when we turn the loop off, which we did last night to keep it from getting a MAIN BUS A undervolt, the loop warms up 'cause it's stagnant, and that's gets it below the - or above the trip point for the heaters, and so we don't have the current spike.

PLT Okay.

CC We're about 1 minute from LOS; we'll be coming up on Goldstone at 23.

PLT Okay.

SL-II MC-963/3

Time: 06:09 CDT, 21:11:09 GMT
6/14/73

PAO This is Skylab Control at 11 hours 20 minutes. About 3-1/2 minutes now from Goldstone, California. And on that pass over Hawaii, as CAP COM Henry Hartsfield was getting ready to put in the call - a wake up call to the crew, we heard a cheery "Good morning" from Commander Pete Conrad. The crew getting a bit of an early start on the day. A relatively active day, and includes a full run of ATM experiments, EREP 11, medical experiments M092 and M171, the lower body negative pressure and metabolic activities experiments. And we'll also have television of yesterday's M131 runs in the rotating litter chair, the motion sensitivity run, with Paul Weitz as the subject. Weitz, yesterday, was running at 25 revolutions per minute in a motion sensitivity run. And after that run was completed, he and Kerwin reported no motion sensitivity - adverse motion sensitivity feelings, and requested that the next runs be conducted at 30 revolutions per minute. Skylab now on its 444th revolution of the Earth, and about 2 minutes from acquiring signal through Goldstone, California.

CC
minutes.

Skylab, Houston through Goldstone 5-1/2

PLT

Roger.

END OF TAPE

SL-II MC-964/1

Time: 06:23 CDT, 21:11:23 GMT

6/14/73

CDR Hello, Houston; CDR.

CC Go ahead.

CDR (Garble) in answer to question 1, fire sensor CT392 and fire sensor 392-2 were changed out on day 161. Not only do you think, but we think the fire sensor 392-2 is (garble). That's why we never did (garble). And we have (garble) on the control panel. That one side of it is in fact, good. So we are taking care of that one.

CC Outstanding.

CDR We were also glad on the odds and ends (garble). Good to see that y'all finally recognized that (garble) when you (garble).

CDR (Garble), I think the question (garble) PC starters (garble).

CC Roger.

SC All three of us.

CC Skylab, Houston. Yesterday you reported that the flow in the wardroom hot water was going down, and I guess the only thing that comes to our mind right off the top is to check that the pressurization valve on water tank 7 is open. You've probably already done that. That's the only thing we could come up with immediately.

SC We looked. And I suddenly got that input, because the last time we took a shower, all the pressure we could get in the shower bottle was 22 psi. What should the pressure be coming out of that water heater? Does anybody know?

CC Stand by and let me see if I can get an answer on that.

SC Okay. No rush, Henry. If that's supposed to be up around - Your system pressure has 35; so whatever losses we have - and it seems to be pretty close to 35 all the way through it. I guess though you take the water bottle and stick it on the outlet side of the water tank itself and see what the pressure is coming out of the tank.

CC Okay. Let us smoke that one over a little bit.

SC Okay.

CC Skylab, Houston. We're about LOS. We'll be coming up on Bermuda at 32.

SC Roger.

CC Skylab, Houston through Bermuda 10-1/2 minutes.

SC We heard you.

CC Skylab, Houston. For the CDR, I got some comments on M553 whenever it's convenient.

CDR Go ahead.

CC Okay. What we'd like to do this morning, Pete, when you get to the 553, is run the remaining samples on wheel 1. And if the beam sticks on like it did, we want you to step on through each sample as quickly as possible,

SL-II MC-964/2

Time: 06:23 CDT, 21:11:23 GMT
6/14/73

being sure not to exceed 2 minutes continuous beam operation. And if you hear that clicking noise that you reported, we'd like for you to terminate and wait for the chamber to vent down. Most likely the clicking is the high voltage over-current relay attempting to remove the power because of the pressure rise.

SC Well, that was not indicated by the pressure gage yesterday. But I think (garble) much more. I agree with that.

SC Roger. But where I left it on stand all night last night; so I should have a super good hard vacuum in there.

CC Okay.

SC Did AG get my message about the fact that the fingers are retracted, but the balls aren't departed, didn't he?

CC Roger. We did.

END OF TAPE

SL-II MC965/1

Time: 06:36 CDT, 21:11:36 GMT
6/14/73

CC CDR, Houston. Whenever it's convenient, I
have an update for your lunar cal operate pad.

SC Okay, just a second.

SC Fire away.

CC Okay, Pete. Where it says 36 minutes S193
RAD to STANDBY - Right above that is S192 MODE to STANDBY, and
we omitted the time there. It should be 35:50.

SC Got it. Is that it?

CC That's all there was to it, and did - We
transmitted those three messages. They should be on board now.

SC Thank you, sir.

SC Hey, Henry - something for FAO to think
about. We just finished up and don't need any more of the half
urine - of the urine sample half bags or half urine sample
bags, whatever you want to call it. We'll be more than glad
to resupply that for Captain Baines if you want us to. You've
got to tell us where to get the replacements though.

CC Okay, we copy.

CC And, Skylab; Houston. We're about 1 minute
from LOS; Ascension at 50.

PAO This is Skylab Control at 11 hours 44 min-
utes Greenwich mean time. In about 6 minutes we will again be
acquiring Skylab over the Ascension Island Tracking Station.
During that stateside pass, one of the things discussed with the
crew was the M553 experiment, which uses the manufacturing
facility resembling a diver's helmet to fabricate spherical
shapes by taking advantage of the virtual absence of the
gravitational field. That experiment to be performed in one
of its modes today. And coming up on revolution 446 and 447,
we have the 11th and final Earth resources pass of this mis-
sion. EREP pass 11 is scheduled to acquire data over an ap-
proximately 7,000 mile long track that extends from the
Oregon coast across Nevada, New Mexico, the lower Rio Grande
River Valley, Texas, Central America, and from the Pacific coast
of Columbia on through Brazil, Bolivia, and to the Atlantic
Ocean, near Portalegre, Brazil. Analysis of the data acquired
will be used in gaining a greater understanding of the major
geologic features of the basin and range province of California
and Nevada. Also the spectral and spatial capabilities of
various sensors will be tested over White Sands, New Mexico.
That information will be used in improving understanding of
lower Rio Grande Valley soil distribution and insect infesta-
tion. It will also assist in studies of volcanic activity
in Central America and in determination of natural resources of
Columbia, the upper Amazon River Valley in Brazil, and Bolivia.
Also imagery from the S190A and S190B cameras will aid Costa
Rica, Honduras, Nicaragua, and El Salvador in mapping studies
of these countries. At 11 hours 46 minutes Greenwich mean time,
this is Skylab Control.

END OF TAPE

SL-II MC966/1

Time: 06:48 CDT, 21:11:48 GMT
6/14/73

PAO This is Skylab Control, at 11 hours 49 minutes. We'll be talking with Skylab through the Ascension tracking station in about 1 minute. At the present time the planning shift headed by flight director Neil Hutchingson is completing activities in planning tomorrow's flight schedule. And we're also in the process of a shift handover here in Mission Control. Flight director Phil Shaffer preparing to relieve flight director Hutchison. And we anticipate a change of shift briefing this morning to occur at about 8:45 a.m. central daylight time.

CC Skylab, Houston through Ascension for 9-1/2 minutes.

CC Skylab, Houston to Ascension, 8-1/2 minutes.
SPT Roger, Houston.

CC And in answer to the question about the (garble) sample urine bags, the next supply is stored in vault 426.

SPT Vault 426.

CC And also got an answer on checking the pressure. You can use the portable water tank to check the pressure at water tank 7 outlet. And if you get good pressure at that point then we suggest you take the water tank and the WMC 1 hose down to the WMC and measure the pressure at the water heater dump port.

SPT Okay.

PAO This is Skylab Control. We have had loss of signal now through Ascension and will be acquiring in 21-1/2 minutes at Carnarvon, Australia. The spacecraft now in the 445th revolution of Earth. At 12 hours 1 minute Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-967/1

Time: 07:20 CDT, 21:12:20 GMT
6/14/73

PAO This is Skylab Control at 12 hours
21 minutes Greenwich mean time. We'll be talking to the
crew through the Carnarvon, Australia Tracking Station in
about a minute. Coming up this afternoon at 19:00 Greenwich
mean time, or about 2:00 p.m. central, the crew will be turn-
ing off the fuel cells in the CSM, which have been supplying
about 1100 watts needed for CSM operations, and they'll
switch over to supply the 1100 watts needed by the CSM from
the power generated by the solar panels from the workshop.
The workshop is currently consuming about 4700 watts of
power - -

CC

- - through Carnarvon for 10-1/2 minutes.

SPT

Hello Houston, this is the SPT and I
have a question about DAC exposures for out - the - window photog-
raphy. Yesterday I wrote down that you gave me f/5.6 at 1/250
if the whole roll was to be used exterior. And today's pad
says f/11 out of 1/500, I would like to verify that.

CC

Okay. Stand by.

CC

SPT, Houston. There's some confusion
on this thing. We're convinced that the f/11, 1/500 is the
correct setting.

SPT

That's what we used.

CC

And I have a map update, whenever you
want to listen to it.

SPT

Come ahead.

CC

Okay. We're - Little flare update -
active region 27 had a subbright flare, a Charlie-4 X-ray
at 0335 Zulu. And there was also a Charlie-2 X-ray event at
520 Zulu with no associated optical flare. Active region 37
is still complex and it's a probable X-ray source. There's
a new region, active region 41, 290.8, emerged just east of
active region 37 and a small rapidly growing bipolar spot
group.

SPT

Roger, Hank. We reported seeing that
one last night, it looks very interesting. We're rooting
for it.

CC

Roger.

CC

Skylab, Houston. We're about 30 seconds
from LOS, Guam at 35.

END OF TAPE

SL-II MC968/1

Time: 07:32 CDT, 21:12:32 GMT
6/14/73

PLT Still there, Houston?

CC Roger.

PLT Quick question, Hank. We just put the shower bottle on the outlet of tank 7 and the gage went to 22 psi, to verify the gage on the shower water bottle, we would like to pressurize it to line pressure out of the 35 psi into REG. Is that okay?

CC Okay, we'll have an answer in Guam for you.

PAO This is Skylab Control. We've had loss of signal through Carnarvon and we'll be acquiring at the Guam tracking station in about 1-1/2 minutes. Again as we mentioned at the start of that Guam pass today at 19:00 Greenwich mean time or 2:00 p.m. central daylight time crew will be switching the fuel cells off in the CSM, having nearly depleted the consumables for the fuel cells. At that point we'll begin transferring about 1100 watts to the CSM from the workshop, that power previously supplied by the fuel cells. The workshop is presently operating at a level of about 4700 watts. That will be required to supply a total of about 5800 watts when we begin transferring 1100 to the CSM. And EGIL reports that we have plenty of margins with a capability from the solar panels of about 6800 watts with an additional 500 watts of margin and equipment that could easily be powered down if need be to give us additional power margins. But it appears that we'll have adequate electrical power from the solar panels to maintain operations at the current level.

CC Skylab, Houston through Guam for 9 minutes.

CDR Roger, Hank and we verified through the portable water bottle that we do, in fact, have 35 psi nitrogen and I'm suspicious of the gage on the shower tank.

CC Roger. We think it's a good idea to - what Paul suggested - is take in the shower bottle and taking it and verify the gage with a 35 psi source. We should have thought of that.

CDR Okay.

CC Skylab, Houston for info we're reconfiguring your gyros for daytime configurations.

PLT You there, Houston?

CC Roger, for about 6 more minutes.

PLT Okay, this gage reads all right. We just put it on the servicing - and it went right up to 35. So I guess the answer you owe us there is why is the pressure out of tank 7 22 psi?

CC (Garble)

PLT When you figure that out you get a gold spur.

SL-II MC968/2

Time: 07:32 CDT, 21:12:32 GMT
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CC Okay, on the pressure you just checked was the outlet of the water tank 7? You checked the gage and it's okay. Have you checked the outlet at water tank 7?

PLT Yeah. That's why we've been trying to check the gage. I don't see any way that we could have 35 psi going to the watering manifold and have 22 psi out of the tank. And that's what it is.

PLT And that 22 psi, Hank, I unhooked the new WMC hose to the water tank 7 outlet and hooked the water - the shower water bottle into it and we only got up to 22 psi which is what we get out of the WMC water heater.

CC I think we're discovering some new physical principle here. Everybody is scratching their heads. We'll see what we can come up with.

PLT Why do you think we finally came to you guys? We wanted you to be as sound and as well as us at this zero g principle, whatever it may be.

CC Roger.

PLT Another question, Houston.

CC Go ahead.

PLT Okay, now we've got that shower water bottle full of cold water, is the flow rate too much to go ahead and dump through the waste water dump line?

CC That's okay. Go ahead.

PLT All right.

CDR Houston, you there?

CC Go ahead.

CDR Say that waste water - yeah, all the water tanks - those are metal bellows in there do you suppose that there's any way that they could have gotten destroyed enough to be dragging down the side of the wall before they get extended and that we're losing 10 or so psi across the bellows by just dragging down the other side of the tank?

CC We're thinking that. We thought of that too. We're not right sure yet.

CDR Great minds think alike.

CC Skylab, Houston. We're about LOS now.

We'll be coming up on Goldstone at 01.

CDR Okay.

END OF TAPE

SL-11 MC-969/1

Time: 07:47 CDT, 21:12:47 GMT

6/14/73

PAO This is Skylab Control, about 13 minutes now from regaining contact through the Goldstone Tracking Station. The discussion over Guam about the water tank pressure had to do with the fact that the crew noticed curiously enough that there's a pressure difference in the inlet to the outlet of water tank number 7. There should be no pressure difference here. And there's been a fair amount of discussion back and forth as to what could be causing the 13 pounds of pressure difference. There's no concern over it, but it is a matter of curiosity, as to how the tank could be reading a different pressure at the inlet and the outlet. And Pete Conrad and the crew aboard scratching their heads, as we are on the ground, in an attempt to come up with an explanation. At 12 hours 49 minutes Greenwich mean time, this is Skylab Control

END OF TAPE

SL-II MC970/1

Time: 08:00 CDT, 21:13:00 GMT

6/14/73

PAO This is Skylab Control, at 13 hours Greenwich mean time. Coming up on Goldstone, and we'll stand by for the crew call and conversation over this stateside pass.

CC

Skylab, Houston; stateside for 17 minutes.

CDR

Okay, Henry, there's a big water tank mystery. I have another data point for you if you're ready.

CC

Okay.

CDR

Guess what the pressure out of water tank 1 is? Well, I won't make you guess. It's 24 psi out of water tank 1.

CC

What did you measure that with?

PLT

(Garble) our faithful little water bottle that we've been carrying around measuring everything with. On the fact that we said it was 24 out of tank 1, and 22 out of tank 7, I think it's (garble) level. With the same guage we have measured water pressure out of tank 1 at 24, out of tank 7 at 22 and nitrogen pressure out of panel 500 at the portable water bottle servicing port of 35.

CC

Copy.

PLT

So what we've come up with then is a basically a built in force in the bellows to return to the full position until (garble).

CC

Roger, and you use the shower water bottle for that?

PLT

Yeah.

CC

Is that bottle full, or do you know?

PLT

Well, I started with 10 PSI of nitrogen in it and we got a total of 24 PSI in there now. The rest of the pressure haven't been made up of water. So you guys tell me how full it is.

CC

Okay, copy.

PLT

Also, for correlation (garble), let me give you some numbers on how far those bellows have moved in those two tanks when you're ready to copy.

CC

Go ahead.

PLT

The water tank 1 is 32 and a quarter inches from the end. And in water tank 7 it is 11 and a quarter inches to the end. And of course, those are measured from the pressurization valves and their tanks.

CC

Roger, copy.

CC

Well, I guess we'll have to track this down later in the day here, maybe during one of the house-keeping periods here. We'll smoke it over until then.

PLT

Okay.

CC

And, Skylab, Houston; and we recommend

SL-II MC970/2
Time: 08:00 CDT, 21:13:00 GMT
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that we don't check anymore water tanks with the shower bottle since we've used it on the WMC system there.

PLT Okay.

CC Your mike's keyed open.

PLT (garble) commence shift work. Sweepers man your broom, sweep down fore and aft, carry all trash to the airlock.

CC That whistle is kind of weak at 5 PSI.

CDR (Garble) So is the bosun that blew it.

CDR Hey, Hank, you still there?

CC Roger. We got about 9-1/2 minutes.

CDR Okay. On that 553, I got it to run again but by hook and by crook. And I diddled around with the focus again to make sure I got it on the end of the ball and all that good stuff like we were told to do with - the camera will tell how well I did. But it doesn't melt those balls right. You get about half a ball melted on the kno' and just as it starts to melt on the bottom the (garble) draws and shuts the beam off. And I'm just not meeting with very good success at making ball bearings. I look at the lights and there are all kinds of funny looking things. Some stay on and some come off, so - but the single retract and there is a couple of them were (garble) (garble) and the thing retracted and cut it off.

CC Roger, copy.

CDR Hey, I got all wheel 1 done and I'm letting it cool down now and I'll collect what's in there and put wheel 2 in there and see what I can do with it.

CC Okay.

SCHWEIKART The worst that could happen if you did that is that - -

SC All right, Rusty.

CC Wrong buttons.

PLT Houston, the flight surgeon has just conducted his daily sanitary inspection, and the food and water systems are both acceptable except for human consumption.

CC Roger, copy.

CC Skylab, Houston; for the CDR. In regard to the (garble) there, I guess the only thing we could suggest is perhaps on wheel 2 to try to have the beam strike the sample up a little closer to the tip. Maybe we could avoid melting that thing off of there before it's ready.

SC (garble) pretty well there.

CC Okay.

END OF TAPE

SL-II MC-971/1

Time: 08:16 CDT, 21:13:16 GMT
6/14/73

CC Skylab, Houston. We'd like to get a couple of questions answered on this shower bottle. You dumped it there between readings. I guess we'd like to know where you dumped it, which connection you went into?

SC We haven't finished dumping it yet.

CC The (garble) output?

SC We're dumping it through the waste compartment - the waste management compartment dump line.

CC Okay. Was that above or below the sink there - the squeezer?

SC It's in the inlet to the dump line which is normally hooked up to the squeezer dump cord. It is the one up at the top of the water heater.

CC Roger. Copy.

SC Is that all right?

CC We'll let you know. We know where you dumped it now.

SC I didn't dump it all at once. That pressure in the tank got up to about 08; so I stopped to let it come down a little bit before I dumped some more.

CC Roger.

CC And you did dump prior to checking water tank 1?

SC Negative.

CC Say again.

SC Negative. I did not. We checked water tank (static). Then we checked the nitrogen side. Then we checked water tank (static).

PAO This is Skylab Control. We've had loss of signal now through the Bermuda Tracking Station; 40 minutes away from reacquiring at Carnarvon, Australia. Spacecraft now on the 446th revolution. And on our next stateside pass, we'll be coming up on another Earth Resources Experiment pass, EREP 11, which will be the final EREP pass scheduled for Skylab II, which will be acquiring data over an approximately 7000-mile-long ground track that extends from the Oregon coast across Nevada, Mexico, the lower Rio Grande River Valley, Texas, Central America, and from Columbia, through Brazil and Bolivia, to the Atlantic Ocean near Portalegre, Brazil. At 13 hours 21 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC972/1

Time: 08:28 CDT, 21:13:28 GMT
6/14/73

PAO This is Skylab Control at 13 hours 29 minutes. We'll have a change-of-shift briefing at 8:45 central daylight time in the JSC News Center briefing room. Flight Director Neil Hutchinson will be the participant in this press briefing. Hutchinson and his team of flight controllers are handing over at this time to the team headed by Flight Director Phil Shaffer. And the capsule communicator, the CAP COM, on the upcoming shift is Astronaut Richard Truly, who will be relieving Hank Hartsfield at the CAP COM console. Again, that change-of-shift press conference to occur in about 15 minutes at 8:45 a.m. central daylight time. This is Skylab Control.

END OF TAPE

SL-II MC-973/1

Time: 08:59 CDT, 21:13:59 GMT
6/14/73

PAO This is Skylab Control at 14 hours Greenwich mean time. About a minute away from acquiring at Carnarvon on the 446th revolution. Also, our change-of-shift press briefing will begin shortly in the Johnson Space Center briefing room. We'll come up for this pass, take the line down as soon as the press conference is ready to begin, and tape record any subsequent conversations with the crew. We'll stand by at this time for acquisition of signal and the call through Carnarvon.

CC Skylab, Houston. We're AOS at Carnarvon. We've got you for 6-1/2 minutes, and I've got some things I need to talk over with the SPT.

SC Hello, Houston. (Garble)

CC Hello there.

SC Okay, Richard. First I've got two questions for you on the EREP stuff this morning. Want you to verify which magazine you want on the DAC. You gave me one magazine but the location for the other one. And also I want to verify - Do you want to shoot the first site, site 320? You want to do that one over again?

CC Okay. We'll be getting those answers for you.

SC Okay. Go with your questions.

CC Okay. We've been looking ahead to the upcoming cal maneuver, and I've got some pad changes to read up. And most of them - one of them is on the EREP operate pad. All the rest are Joe's. One's on the cal maneuver pad, and also a comment on the ETC pad. So I thought if Joe could collect those pieces of paper, and then when he's ready to talk to me a little bit about them, we might have a little conversation about those.

SC Okay. Just give me a minute.

CC Okay.

SC Go ahead, Richard.

CC Okay. First thing, let's take a look at the cal maneuver pad, Joe. We've ah - We're now in the situation where we've done our last dump prior to the maneuvers. And we've taken a look at Nz, and it's - and ah - Your pad for cal - for the maneuver pad for cal, which the number of the pad is 2124 Alfa.

SC I've got it.

CC Okay. I've got a change about 10 lines down under the fine maneuver for 2. It now reads 50050 and 4 degrees. I'd like to change that number; it should read 50064 to plus 05.2 degrees. And the reason for that change is ah - ah - our better knowledge of Nz.

SC I copy the fine maneuver 2 is changed from 50050 to 50064.

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Time: 08:59 CDT, 21:13:59 GMT
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CC Okay, Joe. I also have a change to the
startracker pad, if you have that one - just the outer gimbal,
for the same reason.

SC Come ahead.

CC Outer gimbal - the correct outer gimbal on
the startracker pad - and the pad number is 2129. Outer gimbal
is plus 2053.

SC Okay. Plus 2053.

PAO This is Skylab Control. Our change-of-
shift press briefing is ready to begin at this time. We'll
switch to the Johnson Space Center briefing room and record
subsequent conversations, during the briefing, with the Skylab
crew. This is Skylab Control at 14 hours 5 minutes Greenwich
mean time.

END OF TAPE

SL-II MC-974/1

Time: 09:23 CDT, 21:14:23 GMT

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PAO This is Skylab Control at 14 hours 24 minutes Greenwich mean time. During the change of shift briefing we accumulated a little over 8 minutes of tape. We're now about 14 minutes from reacquiring at Goldstone for the start of the EREP pass number 11, and we'll play back our accumulated tape through - collected over Carnarvon and Guam.

CC Okay, Joe. Let's look at the ETC pad next.

SPT The one for cal?

CC Negative, it's the one prior to the cal. It's message number 2115.

SPT I'll be with you in a second. I left that one down at the camera.

CC Okay. I'll tell you Joe. I think this one is real simple. I can tell you, you might not want to go get it. What I - I have 2 things to talk to you about on ETC Pad. One is, the filter on this pad says none, it should read 5, which will get the 2 pads in sync. Both of the filters read - should read 5 and there's no filter change required between maneuvers. And the second thing is, as we - for today. When you connect the vacuum to the Earth terrain camera, we want to make sure you leave the vacuum connected whether or not you hear a hissing sound. Over.

SPT Okay. Leave the vacuum connected, regardless. And I don't think I'll have a problem, because this canister was okay the last two times we used it.

CC Roger. We concur. Okay. I have one more pad change and one final thing to talk to you about. The last pad change I have is on the EREP operating pad. And that's normally going to be Pete's, but if you could get it for me I would appreciate it. The pad number is 2113 Bravo. Bravo 1 is the actual - the upper left-hand corner number.

SPT Okay. Is this the EREP OPS for cal or the ah - for the pad?

CC Negative, Joe. It's EREP-11 operating pad.

SPT Okay. We've got you, go ahead.

CC Okay. On this one, it was just a goof on my part. We need an extra entry at time 15:04:00.

SPT Go ahead.

CC S193 Alfa, range 81.

SPT S193 Alfa, range 81, and 15:04:00.

CC That's affirm. And that'll set that instrument up for the proper ellipticity of our orbit. Okay. I only have one more thing to mention to you, Joe. And that is, we want to make sure that we get some more Y-axis scale factor data if we can during your EREP cal sequence. Incidentally, I just noticed we're just coming up to LOS here at

SL-11 MC-974/2

Time: 09:23 CDT, 21:14:23 GMT

6/14/73

Carnarvon, about 10 seconds to go. We're going to have Guam coming up at time 14:15. So why don't I get this last note up to you right there. And I'll have the other answers at Guam at AOS.

SPT See you at Guam.

CC Okay.

CC Skylab, Houston, we're AOS at Guam. We've got you for the next six minutes. The answers to the PLT's questions are, that we do want to repeat site 320. The correct DAC magazine is Bravo-Hotel-02, and the proper location for that, we think, was Juliet-4, J-4. And I need to talk again to SPT. And Joe, it might help if you had the EREP checklist to the EREP calibration timeline on page 13-12. Over.

SPT Okay. Just a minute. Caught me in that forward area, again.

CC Roger. We realize we've been taking up a lot of your time here.

SPT Go ahead, Houston.

CC Okay, Joe. You looking at the - I assume you're looking at page 13-12.

SPT I was looking at 13-3. Wait a minute.

CC Okay. I'm looking at the EREP calibration timeline, the overview page that shows the sequence of maneuvers.

SPT Okay.

CC Okay. Essentially, where we'd - We'd like to - In addition to what's on this, we'd like you to throw one switch for us on the star tracker at a particular point in order for us to get some more Y-axis, the scale-factor dated during the cal sequence. Going from left to right on your column down there, and having put together the times off of your various pads, the start of the solar inertial maneuver is at ah - that's in the left hand corner. It's at 15:08. It's a 12-minute maneuver and it'll end at 15:20. And we'll also have the Vanguard acquisition at the start of that maneuver, but then you'll go LOS after that. Then between 15:20 and 15:23, 15:23 is the place where the little dark triangle is. And that's where you go to ATT HOLD CMG. During that period, you'll get - the star tracker will lock on to that gimbal that I gave you awhile ago, plus 2053. And at that point, right after going to ATT HOLD CMG, we'd like you to cycle the star tracker switch to MANUAL and then to AUTO. That's the only addition to this sequence. And then 15:24 is the final enter on cal maneuver number 1. Over.

SPT Okay. I've got it. Star tracker MANUAL, and then AUTO, immediately after going ATT HOLD CMG.

CC Okay. And incidentally, if you don't get a star, if you - don't waste your time hunting for a star, because we'll take what we get on that.

SL-11 MC-974/3

Time: 09:23 CDT, 21:14:23 GMT
6/14/73

SPT Roger.

CC Okay. Now that we've used up a bunch of your time, Joe, and you were supposed to have been doing this mal for us on secondary coolant loop, why don't you let us know where you are in that, if you've started it at all. We'd like to also tell you that the - we recognize that there is a filter change in order to start this first ETC pass coming up here at the states. And if we have to we're willing to postpone this malfunction and go through and - depending on where you are.

SPT The filter change is complete. The procedure is complete up through connection of the PCU, LSU and verification that we're in position 1. And I'm ready for - to get on up there and start to pump on your mark.

CC Okay. We've got 2 minutes left on this pass, why don't you head up that direction while we pull ourselves together.

SPT And, I'm waiting for you Houston.

CC Okay. We're GO, looking at our data. We've still got a minute and 15 seconds here, so why don't you press right on.

SPT Okay. We're at PRIMARY.

CC Okay.

SPT Now we're OFF.

CC SPT, Houston. Be advised we may go - We've got the recorders running. We may go LOS during this test. We want you to continue right on and finish it, but we do want to do this on SUS 2, SUS 2.

SPT Roger. Sorry. I'll start it over again. You want me to keep right on going through prim for 15 minutes, huh?

CC That's affirmative. We're recording it. We'll watch it as long as we can see you. We're going to see you at Goldstone at 14:38.

SPT Roger.

PAO This is Skylab Control. That brings us up to date with our tape playback. And we're about 5 minutes 45 seconds from Goldstone acquisition. As we lost contact over Guam we were discussing with Joe Kerwin and Paul Weitz a procedure for further troubleshooting and verifying the coolant loops, the airlock coolant loops. And the procedure being discussed was with coolant loop number 2 of the secondary loop, a procedure which involved cycling the temperature control valve to gain added assurance that that valve is modulating as it should. And we'll be getting additional data on this stateside pass to determine, if in fact, that valve as it appears is functioning normally. The weather for the EREP pass, coming up on this revolution and on into revolution 447, appears to be, again, a fair amount of clouds, a fair amount of cloud cover. Now we have the weather map up on the

SL-II MC-974/4

Time: 09:23 CDT, 21:14:23 GMT
6/14/73

monitors for the stateside portion of that pass. And you can see as the ground track comes over Oregon, there's heavy cloud cover for a small portion of the track that breaking out into four to seven-tenths, four-tenths to seven-tenths, or 40 to 70 percent cloud cover, on across Oregon and into Idaho, again hitting pretty solid overcast through Idaho and most of Utah, and on into Nevada, and breaking out pretty much into the clear, with exception of one small patch of cloud cover in Nevada, on across New Mexico, and into Texas, mostly clear, zero 3/10ths cloud-cover. And again, hitting fairly heavy clouds along the south Texas coast and into central Texas, and then clearing out over the Gulf of Mexico. This EREP pass, EREP 11, will be on track 20. And as the last EREP pass scheduled for this mission, data gathered on this EREP pass will be used in understanding the geologic - geographic features of the basin and range problems of California and Nevada, and also will be useful in determining the spectral and spatial capabilities of sensors. These tests will be run over the White Sands area of New Mexico. Also, information will be gathered on valley soil distribution of the Rio Grande Valley, as well as information on insect infestation. Volcanic activity will be studied in central America. And natural resources studies will be conducted from data gathered over Columbia, and also over the upper Amazon River Valley of Brazil, and on into Bolivia. Imagery from the S190A and S190B cameras will aid Costa Rica, Honduras, Nicaragua, and El Salvador, and cartographic studies of these countries. We have about 2 minutes now before we acquire signal through Goldstone. And again, we will expect the crew, as they have on previous EREP passes, to have their mikes in the VOX mode, the voice-operated mode, so that we're hearing all of their conversation as they activate and turn off the various instruments, and call off targets that they'll be sighting through the view finder tracking system.

END OF TAPE

SL-II MC975/1

Time: 09:36 CDT, 21:14:36 GMT

6/14/73

CC Skylab, Houston. We're AOS stateside for
the next 16 minutes. Standing by.
SC Roger. How do you read the CDR VOX?
CC Loud and clear, Pete.
SC Hey, while I've got a minute here, Houston,
you want to do that H2 vent before we shut the fuel cells down.
Is that correct?
CC That's affirmative. We want to make sure
that it's working properly.
SC Okay.
SC MARK 39 minutes.
CC Skylab, Houston. No response required, but
just for your information, Rusty and the guys went over to
run the simulator and ran this set of pads for the EREP cal
maneuver yesterday, and it turned out pretty good.
SC Okay.
SC 91 READY light on time.
SC And the ALTIMETER is ON. Show an ALTIMETER
UNLOCK light. P92 MODE READY. Bravo 7 is 30.
SC On ALTIMETER UNLOCK light, the mode is 1;
the range is 76. That's blinking a little - it may be coming
in.
SC 90 to MODE AUTO at 41:13. Joe, you're
going to have an ETC AUTO at 42:12.
SC (Garble).
SC Once again, Houston, where do you want - -
SC 54 - MARK, ALTIMETER to STANDBY.
SC I had to just swing my startracker
to AUTO and leave. I don't know if we're going to get a star
lock-on or not.
CC Roger; understand. It's okay.
SC 42:12, ETC to AUTO.
SC Got it.
SC MARK, ETC STANDBY.
SC Got it.
SC And S193A is MODE 2.
SC MARK. 43:45 SCAT to STANDBY, RAD to STANDBY.
At 47:53, the ALTIMETER is ON.

END OF TAPE

SL-11 MC976/1

Time: 09:44 CDT, 21:14:44 GMT
6/14/73

CC Skylab, Houston. No response required.
We're going to handover from Goldstone directly to Mila here in
a few seconds. We'll probably drop out about 30 seconds
and be back with you.

CC Skylab, Houston. We're AOS at Mila again;
we got you for the next 6 minutes. Standing by.

CC And, CDR; Houston, be advised we're not
reading you if you're transmitting on VOX anymore.

SC Apparently not.

SC Houston, you read the SPT?

CC SPT, Houston. I read you loud and clear.
Y'all did drop out for a few minutes there. I stopped reading
the CDR on VOX.

SC But I can hear it (garble).

SC Hello, Houston. How do you read the PLT?

CC Loud and clear, PLT. How me?

SC Loud and clear.

SC Did you get that no joy on (static) 385, Dick?

CC Negative. I didn't copy that. Say it
again, please.

SC No joy on ATS site 385. All the clouds
are in the wrong places.

CC Copy.

SC How do you read the CDR?

CC Loud and clear, Pete.

SC Okay. MARK 49 (static)

SC Uh, Houston. On the next site, 566, - -

SC MARK.

SC - - do I get a (garble) 66 is clobbered.
Can I pick up 65 and or 64 also?

CC That's affirmative, PLT. Press right on.

SC Okay.

SC SCAT to STANDBY; RAD to STANDBY; 91, POWER
OFF. Looks pretty hazy down around the Corpus area also.
(garble) you're really doing it in in this EPS. You might pass
that on to Jack (garble).

CC Roger, Paul. Copy.

SC 50:02, the ALTIMETER is ON.

SC Interealometer to 8. 51, crosstrack
contiguous; POLARIZATION is 4.

CC Skylab, Houston. See you got a little
hole here in this thing. We've terminated (garble) recording;
so we'd to - we'd like to get the SUS pump off while you're
still AOS. It's panel 217, SUS 2 PUMP to OFF, if possible.
We still got 2 minutes to go prior to LOS.

SC I'll do it.

CC Okay.

26/2

246 GDF, 21:14:44 GMT

Say, Houston, can you just reset the
2190 in the middle of a run?

Stand by.

CDR, if you switch in the middle, it'll
and you go to STANDBY; so it's okay.

All right.

You guys keep coming up with these trickies
as seen before.

Roger that, we're 45 seconds from LOS.
going to see you at Vanguard at 15:03. We're going
the data tape recorder there and we sure appreciate
working in that malfunction procedure for us.

That's one you owe us.

You still there, Houston?

Yes, sir.

Okay, I got (garble) 66 on that but not the
And (garble) is a little shakey also. Hard to
knob from another in there.

Okay.

ALTIMETER to STANDBY; 5338. Intervalometer
18. MARK, intervalometer to 18. It'll be 54. We're
by (garble) hours (static) come on.

(Static on (static)

This is Skylab Control.

PE

SL-XI MC977/1

Time: 09:54 CDT, 21:14:54 GMT

6/14/73

PAO Skylab Control. We've gone out of range now of the Texas and Mila tracking stations. Skylab completing its EREP pass down over Central America, crossing into Columbia from the Pacific oceanside and out over Brazil, exiting on the Atlantic on this, the 11th and final, EREP pass of the mission. And we have about 9 minutes remaining before we re-acquire the spacecraft at the conclusion of this EREP pass through the tracking ship, Vanguard. EGIL, the environmental systems engineer, got a good look at data on the coolant loops during that pass and reported the loops appear to be functioning normally and the temperature control valve cycling as desired to maintain the proper loop temperature. At 14 hours 55 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC978/1

Time: 10:02 CDT, 21:15:02 GMT
6/14/73

PAO This is Skylab Control at 15 hours 2 minutes. Less than a minute now from acquisition through the tracking ship Vanguard. We're getting a replay on that excellent bit of video from the ATM that was dumped to the ground earlier today and brought back in during our last pass over the continental United States. This is ATM video that is stored on the onboard video tape recorder earlier today. And it was a very clearly evident active region - active region 27 that showed up near the lower limb of the Sun on that ATM video. Also on the white light coronagraph we're told that a bright spot visible in one of the corona - streamers of prominences at about the 10 o'clock position was the planet Saturn. We show acquisition now. We'll stand by for the call to the crew through Vanguard.

CDR READY MODE, READY. But for 15:04 we'll put the range to 81 on S193.

CC Skylab, Houston; we're AOS at Vanguard for 8-1/2 minutes.

SC 81:00 on the altimeter. Roger, Houston.

CC Roger, read you loud and clear. Standing by.

SC 04:20 MARK, 92 to CHECK.

CC SPT, Houston I wonder if you've got a little block in between callouts there. On the ETC lunar cal pad there is another mistake. We found the DEC data block exposure control for the cal pass ought to be four just like it is for EREP 11 pass. There's no change required to that.

SC Okay, copy that.

CC Thank you, Joe.

END OF TAPE

SL-II MC-979/1

Time: 10:05 CDT, 21:15:05 CMT

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SC 05:12, that's 190 to MODE STANDBY,
READY light was OUT on time.
CDR 05:38, MARK. ALTIMETER to STANDBY.
SC MARK 05:44 MODE 5.
SC MARK 05:53 the ALTIMETER is ON.
SC Six minutes 94 MODE MANUAL.
CDR Getting occasional ALTIMETER LOCK lights.
CDR Still getting ALTIMETER on LOCK lights.
SC MARK, 7 minutes.
SC MARK, 07:48, MARK, ALTIMETER STANDBY.
07:54, MARK, EREP STOP. Stand by for 15:08, START SI MANEUVER.
Okay. Stand by for 15:12 for LC SET UP.

END OF TAPE

SL-II MC-980/1

Time: 10:08 CDT, 21:15:08 GMT
6/14/73

CC Skylab, Houston. We're about 40 seconds from LOS. We've got a long LOS. We're going to see you at Goldstone at 16:15, and you can tell us what the Moon looks like.

SC Okay. We'll see you.

CC Okay. See you later.

PAO This is Skylab Control; out of range now of the tracking ship Vanguard, and a little more than an hour away from reacquiring at Goldstone California. Prior to losing our radio contact, Flight Director, Phil Shaffer, requested that each of the flight controllers take a good look at the data on the spacecraft before losing contact for this extended period of time, before we come all the way back around to Goldstone. And everything, from all reports, was normal. The last remark to the crew from CAP COM, Dick Truly, was something to the effect of, you can tell us how the Moon looks. The crew will be looking at the Moon through the view finder tracking system as an attitude reference for pointing the S192 multispectral scanner at the Moon. At 15 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC901/1

Time: 11:14 CDT, 21:16:14 GMT

6/14/73

PAG This is Skylab Control. We're about a minute now from acquiring at Goldstone, California. This will be our last Goldstone pass of the day as we reach that portion of the ground track where we have a rather scanty ground station coverage. This revolution we'll pick up Goldstone and the tracking ship Vanguard only. Next revolution it will be Hawaii and Vanguard is the only two stations to acquire. We have acquisition of signal now, we expect CAP COMM, Dick Truly, will be giving a call to the crew shortly.

CC Skylab, Houston. AOS at Goldstone for 7-1/2 minutes.

SC Okay, Houston. You can mark the H2 vent - the H2 pressure at this time. I just opened the H2 vent before you came up.

CC Roger, CDR. We don't have data right at the moment. We're working on a little ground problem, but appreciate you telling us.

SC Okay, well, I just (garble) caught up and try to watch and look at it in (garble).

CC CDR, Houston, roger. And be advised, we also been talking about the H2 vent. We do want to make sure it works. We got a Vanguard pass coming up here and we'll - when we get data back we'll take a look here at Goldstone and also at Vanguard and if we can confirm that it's working right we'll probably let you secure it.'

SC Okay.

CC And one more thing, Pete. A piece of information I'm not sure you have on board but if the tanks drop 20 PSI, that's enough and we'd like to secure the vent.

SC Okay, and I have it on board.

CC Roger.

CC And Skylab, Houston. If you have time sometime this pass - still got 6 minutes, we'd be interested to know how the calibration against the Moon went.

SC Okay, the calibration went fine except for one loose nut on the (garble). The CDR left the PFC in on the first set of pictures but we had enough time to take the second set of pictures with the PFC out and then return and get the first set of pictures with the original filters correctly, so we got it all.

CC Very good.

SC Also for information for the (garble) guys Dick, the VTS gimbal angles, once we got the attitude, were left about a half as many as I could interpolate and up about 7-1/2 which is pretty good when you shift from (garble) zero in 8. And - and (garble).

CC Roger. Thank you.

END OF TAPE

SL-II HC-982/1

Time: 11:21 CDT, 21:16:21 GMT
6/14/73

SC There's a couple of stowage notes on
B-channel along with EREP data - about EREP for follow on
crew (garble).

CC Okay. Good. Thank you for letting us
know. And we'll let the stowage folks know.

CC Skylab, Houston. We see the star tracker
(garble) is messed up. We'd sure appreciate it if somebody could
help us get a reacquisition, because we need that prior to
doing a good dump maneuver.

SC Okay. I'll get it.

CC Thank you.

CC And, Pete. A final note on H2 vent. When
you do verify that the - you've dropped 20-PSI, we'd kindly
like to know about how long that. And also when you get
to that point, request FANS and HEATERS on both H2 TANKS to
AUTO. And that'll keep us in good shape.

CDR Okay.

CC Skylab, Houston. We see you fixing the
star tracker up for us. We sure appreciate that. We're
about a minute from LOS. We're going to see you at Vanguard
at 16:41. And we're going to dump the data tape recorders at
Vanguard.

SC (Garble)

PAO This is Skylab Control. That will be all
from Texas and Goldstone for today. We'll be acquiring
tracking ship Vanguard in about 14 minutes. At the present
time the recovery people here in mission control report that
C-1, rather a C-5 aircraft is being loaded now with the Skylab
mobile laboratory, the medical facility for conduct for immediate
postflight portions of the Skylab medical experiments, to which
the crew must be transported within an hour after splashdown.
And the laboratory is airlifted from Houston's Ellington
Air Force Base out to San Diego, where it will be loaded on
the prime recovery ship. And it will be on station during the
final week of the mission, ready for recovery. Earlier today, a
C-141 aircraft with the experiment return containers departed
Ellington for San Diego. At 16 hours 28 minutes Greenwich mean
time, this is Skylab Control.

END OF TAPE

SL-II MC983/1

Time: 11:40 CDT, 21:16:40 GMT
6/14/73

PAO This is Skylab Control. We're up a little early over Vanguard with acquisition and response from the crew.

SC Houston, SPT. You there?

CC Skylab, Houston. If you called, say again, please.

CC Skylab, Houston. We lost you for a little bit there. If you said something, say again, please.

CC Skylab, Houston. I thought I heard you try to call, and we dropped S-band there for just a second. If I did, I didn't - If you did, I didn't copy. You might say again. Incidentally, we predict that the H2 vent will be complete at approximately 17:15, which is about 30 minutes from now.

SC Okay, thank you. And Hank, I was calling you to ask about ED31, which I see is on the shopping list. And I'm concerned about returning it because we do not have the IMSS resupply container on board. It will be unable to chill the plates. I want to verify that that's okay, and I'll give that the PI would prefer not to wait until the next flight.

CC Roger. Stand by, Joe.

SC Another question, Dick. What, if any, are the constraints on starting the power transfer to housekeeping 60 Alfa?

CC SPT, Houston. We plan on bringing ED31 back possibly in the food overcan. That's already been discussed; so it's okay to go ahead and do that if you have the time in your shopping list. And we don't have an immediate answer on the questions about the HK60 Alfa, but we will at the next AOS, which is Hawaii at 17:49. And we're about 20 seconds from LOS here.

SC Roger. And when do you want the H2 vent terminated?

CC The time on - The time we predict from looking at the data on the H - on the H2 vent is about 17:15.

SC Thank you.

CC Skylab, Houston. Word from the EGIL - you can proceed with HK60 anytime you get to it in the Flight Plan.

PAO This is Skylab Control. We've now have loss of signal through Vanguard and during that pass gave the crew a go ahead to shut down the fuel cells at any point they are ready to. And when they reach that point in the Flight Plan, the estimate was that that would occur between 18:20 and 18:30 Greenwich mean time, over then about the next hour and a half. And as we said, the crew given a go ahead to shut down the fuel cells on the CSM as soon as they reach

SL-II MC983/2

Time: 11:40 CDT, 21:16:40 GMT

6/14/73

that point in the Flight Plan. When the fuel cells are shut down, a planned operation in recognition of the fact that the CSM fuel cells are running out of consumables, the liquid hydrogen and liquid oxygen, which are converted into electricity through an electrochemical process - and when those fuel cells are shut down, 1100 watts of power will be transferred to the CSM from the workshop power generated by the solar panels. The workshop is now operating on about 4700 watts of power. The 1100 watts needed by the CSM will bring this total to 5800, and we have a capability at the present time from the solar panels of about 6800 watts. So we would appear to have a good margin of power ever after beginning the transfer of 1100 watts to the CSM.

END OF TAPE

SL-II MC-984/1

Time: 11:52 CDT, 21:16:52 GMT
6/14/73

PAO - - transfer of 1100 watts to the CSM.
The next station to acquire will be Hawaii, and that will
be 56 minutes from now. The spacecraft currently in its
448th revolution. At 16 hours 53 minutes Greenwich mean time,
this is Skylab Control.

END OF TAPE

SL-II HC985/1

Time: 12:46 CDT, 21:17:46 GMT

6/14/73

PAO This is Skylab Control, at 17 hours 47 minutes Greenwich mean time. About 3 minutes now from acquiring signal through the Hawaiian Island tracking station. And on this pass over Hawaii among the things that we're expecting to discuss with the crew are the power transfer operation, the shutdown of the fuel cells. They were given a go ahead to do that early if they reach that point in the flight plan. And we expect there's a good possibility that when we acquire them we'll find that the fuel cells are shut down, and they're in the process of transferring the power from the workshop to the CSM, about 1100 watts transferred to the CSM. Also, we've given the crew a go ahead to perform ED 31, one of the student experiments. This is the bacteria and spores experiment, the objective of which is to determine under controlled conditions the survival growth and mutations of selected bacteria in a Skylab environment. And we have acquisition of signal and data.

CC AOS at Hawaii for the next 6 minutes.

SC Roger.

PAO And our telemetry data - -

CDR CDR.

CC Go ahead.

CDR Okay, we transferred power, the fuel cells are shutdown the H2 vent is still open; the only question that I have is, what would you like me to do with that cryo HO2 venting? It is rigged but the poly choke is not on.

CC Roger. Stand by and we'll get you word on that.

CDR Thank you.

CC And Skylab, Houston, last pass I guess you guys were looking at our message we sent up on the shopping list and you mentioned ED31. Probably we would like to make some changes in the protocol, particularly along with the number of frames of photography and so forth due to some of the film on board that may have been degraded due to the earlier high temperatures. So we would be interested to know if you do plan on doing ED31 and we'll be sure and get the right pad up to you.

SPT Yeah, Houston, I'll try to delete ED31. There are a number of things I need. One is a photo pad with your recommendation as to the film and the camera to use. I suspect I have a choice of cameras. And I also need a recommendation as to the approximate length of time between the different photographic episodes. That's not in the checklist. And I need your recommendation as to stowage for return.

SL-II MC985/2

Time: 12:46 CDT, 21:17:46 GMT
6/14/73

CC Okay, Joe, we will work up all those things for you. And if you could give us an idea as to when you think you might have time to go ahead and set it up, it might help us - it might make us change our mind on a couple of items, the detail items.

SPT I'd like to get to it tonight after supper.

CC Okay, we got the people working on it right now. We'll try to have a pad up to you today.

CDR (garble) Dick, I can put 73 back in operation here and we'll do that starting right now. Be advised that I am doing M553-2, but it is a long, slow, and painful process that will probably take me the rest of the day.

CC Roger, Pete, on 553, and flight just wanted me to let you know that MO92 and 171 comes - outranks it.

CDR Oh, no problem there. It's just that I - you just can't run it off in rapid - fire succession. It's got to cool after every one and (garble) off. But we're clicking them off when we have time. You got us restricted to when we can start 92 and I have some time right now, so I will put 73 back in commission PR2.

CC Roger, understand. Thank you much.

PLT Hello, Houston.

CC Go ahead.

FLT I just checked the S190 desiccants that are baking out. They are a beautiful deep blue color and apparently are not usable. Now all it said was to put them in fecal bags and put them back in M130. I think it would be a very good idea to change out the existing desiccants that are in the camera now. I propose to - -

END OF TAPE

SL-II MC-986/1
Time: 12:52 EDT, 21:17:52 GMT
6/14/73

SC (garble) you have the existing desiccants that are in the camera now. I propose to put six of these in the camera now, bake out the six I put out, and change them again just before we left. Think about that.

CC Okay. We'll do that very thing.

SC And I will be waiting, just hanging on the speaker waiting for your word.

CC Okay.

CC SPT, Houston. We believe on the building block you're on, on H-alfa, we should be clicking off four frames per minute, (garble) 1. And for the CDR - As far as command module configuration goes now, Pete, we'd like to leave the cryo O2 in the present configuration. We would like, for both H2 tanks, HEATERS and FANS to OFF.

CDR They are in fact off, and the H2 vent is open.

CC Thank you.

CC Skylab, Houston. We're 1 minute from LOS. We're going to see you at Vanguard at 18:17. And in answer to the PLT's question, we think that's a super good idea. Change out the desiccants in the camera, take the ones that are in there and go ahead and start baking them out, and we'll probably schedule another changeout for you later.

SC Okay.

PAO This is Skylab Control. As you heard during that pass over Hawaii, the crew has configured the CSM so that the fuel cells are now deactivated and power is flowing from the workshop to the CSM - about 1100 watts, scheduled to keep the CSM in its present relatively class and state of operation and readiness. A short while ago the ATM officer, Apollo telescope mount expert, in the Control Center reported that an active region that we've been watching and another one that appears to be forming have given us a fairly high probability of a flare. The ATM Officer said that we may have as much as a 50, 50 chance of a flare developing this afternoon in this particular active region of the Sun. And we have the photograph of one of the TV pictures taken this morning on the TV monitors now. If you look towards the eastern limb of the Sun, you'll see area 37 and area 41. Area 37 is an active region that has been producing some sub-flares, which has been followed closely. But next to it is a small bright spot designated active region 41. It's felt that there is a fairly high probability that these two active regions will begin to interact, increasing the possibilities of a flare. If a flare does occur this afternoon, the crew aboard Skylab should be in a pretty good posture to observe it. Now there are several periods of ATM activities scheduled throughout the afternoon. That will be an item of interest to keep an eye on.

SL-II MC-986/2

Time: 12:52 CDT, 21:17:52 GMT

6/14/73

We'll be regaining radio contact with Skylab in about 18 minutes through the tracking ship, Vanguard. At 18 hours Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II KC-987/1

Time: 13:16 CDT, 21:10:16 GMT

6/14/73

PAO This is Skylab Control at 18 hours 17 minutes Greenwich mean time. And we're about a minute from regaining contact with Skylab through the tracking ship, Vanguard, off the coast of South America. Skylab now completing the 448th revolution; ready to start revolution 449.

CC Skylab, Houston. We're AOS at Vanguard for 9 minutes.

SC Roger, Houston. S073 prep 2 is complete, and I'm just getting ready to extend it. We'll be on 92 - 171 on time.

CC Very good.

SC Just to keep FLIGHT happy.

CC He's grinning from ear to ear.

SC I find that hard to believe.

CC And, Skylab; Houston. Be advised we're reconfiguring the CBRM and wall heaters post-normal - post EREP commands. And also I have some information on FINE REG ADJUST that we'd appreciate y'all doing when you can, which is necessary after we've done the command module power transfer.

SC Okay. I'll get my FINE REG ADJUSTER out of the (garble) and send him on his way.

CC Okay. We got 8 more minutes left in this pass; so when he's ready to listen to what we want, I'll be glad to read it up.

SC He's on his way to Houston in a speeding bullet.

SC You're (garble).

CC Did I copy you're ready to listen?

SC Affirmative.

CC Okay, Paul. On REG BUS 1 ADJUST, we want that counterclockwise, approximately 30 degrees, which ought to result in about a 7 amp decrease in PCG total 1 current. And on REG BUS 2 ADJUST, we want that one also counterclockwise, about 10 degrees, and that ought to result in about a 2 amp decrease in PCG total 2 current.

SC Okay. I read about 48 to 60 on board now. Is that about where you want it?

CC Stand by.

CC PLT, Houston. We're very happy with the adjustment that you made, and we're satisfied with this configuration.

SC Okay.

CC SPI, Houston. On the ATM console our spies on the ground are watching you doing your sunside work and are a little bit confused as to exactly where you are in the - in this particular pass. And if you get a chance this time, you might let us know how things are going.

SC I'm not sure I don't want to keep them in the dark. I can usually tell by looking at H-ALPHA. I'm

SL-51 MC-987/2

Time: 19:16 CDT, 21:18:16 GMT

6/14/73

in the JOP 6. I'm in the second part of the JOP 6. The X-ray TELE is finishing up (garble). We're not going to finish everything. Obviously we're getting too close to ESS, but that's where we are.

CC

Okay, Joe. Thank you Luc's.

CC

SPT, Houston. The question that we just asky you about where you are on AFM makes us think we possibly might have a teleprinter problem in numbers. We thought you ought to be doing a building block 2 vice a building block 1. Incidentally, we're about 30 seconds from LOS. We're getting ready to have a long LOS period. We're going to see you at Hawaii at 19:24. We've got about 30 seconds left.

SC

Okay. And while you're LOS, you can ponder the fact that the teleprinter is okay but think of all the extra data you got.

CC

Roger that, Joe.

END OF TAPE

SL-II MC-988/1

Time: 18:27 CDT, 21:18:27 GMT

6/14/73

PAO - - We've had loss of signal now through Vanguard, about 57 minutes until we reappear at the Hawaiian Tracking Station. All systems look good as the vehicle went out of range, including the electrical power situation where the crew has shut down the CSM fuel cells and are transferring power now from the workshop to the CSM. At 18 hours 28 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-989/1
Time: 14:23 CDT, 21:19:23 GMT
6/14/73

PAO This is Skylab Control in Houston; 19 hours 23 minutes Greenwich mean time. We are some three-quarters of a minute away from acquisition of the Skylab Space Station through the Hawaii tracking site, as we are about to terminate revolution 449. We'll stand by for half a minute or so and wait until CAP COM calls up to the crew.

CC Skylab, Houston. We're AOS at Hawaii for the next 10 minutes, and we're going to be dumping the data tape recorder this pass.

SC Okay.

CDR Houston, CDR. How about working up a pad time for program OA on 73 that doesn't interfere with recorders for me sometime.

CC Well, as a matter of fact, Pete, I have here a mission note for you that has some information on S073, mode OA, and I was - and I was just trying to figure out exactly when to call you because I wasn't sure how busy you all were and if you could listen.

CDR Go ahead.

CC Okay. On the program start, we want to use the ATM DC clock. Start the program at 7 minutes prior to sunset on any rev after M092. The REP should be 36 - 36, and the rest of the setup is per the checklist.

CDR Seven minutes prior to sunset on the ATM DC REP 36, REP the same. I got it.

CC Roger. I wasn't sure I copied how you read that back. But that was 7 minutes prior to sunset. And I also have another note here for you on the polychoke setting. If you have time, we'd like to get it set to orifice number 2, which corresponds to 13 pounds per day, and insure, of course, that the vent valve and hose have been hooked up to this side hatch prior to doing this. And if you do this, it will allow us to look at the data this afternoon, prior to you guys going to bed.

CDR Yeah, I'll get it on right away. And then that hose is rigged, the orifice is off, and I'll put it on, turn it off.

CC Okay. Good show. Incidentally, we haven't forgotten your guys' request on doing something about the ward-room window. And we do have some people looking at two or three ways we might could get that moisture out from between the panes, and we'll be getting back to you on that.

CDR Okay. Thank you.

CC SPT, Houston. When you get a chance, the startracker appears to us to be locked on something moving. You might try reacquiring. Your startracker pad on board is okay.

SL-II MC-989/2

Time: 14:23 CDT, 21:19:23 GMT
6/14/73

SPT Okay, Houston. What do you think?
Seems to be particles floating across this pad. We have to examine it every now and then.

CC Roger, Joe. We believe that's what's happening, and unfortunately it seems to be happening quite often today, and I'm bugging you guys about it. But we think it probably is little light particles or something.

SPT Okay.

SC Probably is added hydrogen.

CC Roger.

CC Skylab, Houston. We're about 1 minute from LOS; we're going to see you at Vanguard at 19:56. And incidentally, Pete, either here or at Vanguard, we'd appreciate you letting us know how much of the S073 you did get done today, because it will affect what we're going to schedule for you tomorrow. And in the event you did take the option of going ahead and photographing your prep for S073. and you haven't done that yet - I understand you asked the question earlier, but the information for that M151 setup is on the SAL checklist, page 8-1. And no response required now if you're busy.

CDR No, I got it all done. I did an M151 with it per checklist. It's a two rod extension right now. I will get program OA run tonight. The polychoke is on and running on orifice position 2.

CC Outstanding. Thank you much.

PAO Skylab Space Station has moved out of range of the Hawaii tracking site. We will acquire again over Vanguard in 21 minutes. At 19 hours 35 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-990/1
Time: 14:55 CDT, 21:19:55 GMT
6/14/73

PAO This is Skylab Control, Houston at 19 hours
55 minutes GMT. Some 45 seconds away from acquiring the space
station over the Vanguard Tracking Site. Standing by for
air-to-ground.

CC Skylab, Houston. We're AOS at Vanguard
for 8 minutes.

SC (Garble).

CC SPT, Houston. Be advised since the way
the star tracker's been acting up today, we don't want to
let it keep updating Nz with bad data. So what we intend to
do is issue a command to the star tracker to inhibit it from
changing the value of Nz and ATMDC. And - So if you'll give
us the DAS, we'll go ahead and issue that command.

SC You got it.

CC Okay.

CC Skylab, Houston. Be advised of the result
of our troubleshooting early today and you guys running through
that malfunction procedure. We think we've determined in the
airlock module secondary coolant loop that that thermal
control valve is still possibly hung up. However, this time
it appears to be hung up closer to the - its normal tempera-
ture control point. But we're not real sure and we're continuing
to look at the data and we'll keep you informed.

SC Okay.

CC Skylab, Houston. If you did extend the
S073 awhile ago when we were talking, and we're a little
confused about whether you did or not, we probably ought to
get power on it so we don't have any freezing problems. We've
still got about 2 minutes left in this AOS here at Vanguard.
Following this one we're going to have a whole rev and see
you again at Vanguard, if there's anything you need to talk
about then (garble).

CC And SPT, Houston. The DAS is your's. We're
through with our command.

SPT Roger that. And the CDR says he will put
power in 73.

CC Okay. Thank you much.

PAO We've had loss of signal with the space
station, and will next acquire them again over the Vanguard
Tracking Site in 1 hour and 29 minutes. At 20 hours 4 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC991/1

Time: 16:31 CDT, 21:21:31 GMT

6/14/73

PAO This is Skylab Control, Houston; 21 hours 32 minutes Greenwich mean time. The Skylab space station is about a minute from acquisition of signal again through the Vanguard tracking ship. We would like to announce that there will be a Change of Shift Briefing at 5:30 p.m. central daylight time in the News Center Briefing room with the off-going Flight Director Phil Shaffer. We've had a long period during the time when the space station has been out of contact with the ground. Essentially we had the last contact at Vanguard. We have circled the Earth once and are now about ready to regain contact again. We'll stand by for the air to ground over the Vanguard tracking site.

CC Skylab, Houston. AOS for 10 minutes.

CDR Hi there Bill. How are you tonight?

CC Oh, pretty good.

SC Say again.

CC You broke up on that one. Say again.

CDR S073 is off and running on time.

CC We copy.

CC Skylab. LOS 1 minute. AOS Ascension

21:47 and we will be dumping the tape recorder at that point.

CDR Roger, Houston.

PAO The Skylab space station has passed out of range of the Vanguard tracking site. We will pick it up again over Ascension in about 2-1/2 minutes, so we'll leave the line up for another call from CAP COM Bill Thornton.

END OF TAPE

SL-II MC992/1

Time: 16:44 CDT, 21:21:44 GMT
6/14/73

CC Skylab, Houston. AOS for 10 minutes.

SC Roger, Houston.

CC And, Skylab, be advised we're going to be running the MDA heaters such that they're about 60 degrees, and this may cool the OWS over the next few days. If you find this objectionable, let us know.

SC Okay. We don't think so. If - You can notice a couple of degree change in here though. We're quite sensitive to increase in temperatures in the workshop, especially on the ergometer.

CC We copy that.

CC Skylab, LOS in 1 minute. Guam 22:31. And we show the TACS not inhibited. We would like to have the TACS inhibited.

SC (garble).

PAO We've had loss of signal from the - with the Skylab Space Station at the Ascension tracking site. We'll acquire again in 32 minutes at Guam, over the Guam tracking site. A reminder that at 5:30 p.m. central daylight time, there will be a change-of-shift briefing in the News Center briefing room - News Center briefing room with the off-going flight director, Phil Shaffer. At 21 hours 58 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL II MC-993/1

Time: 17:10 CDT, 21:22:10 GMT

6/14/73

PAO This is Skylab Control, Houston at 22 hours 10 minutes Greenwich mean time, with an advisory that the USAF C-5A Aircraft with six units of the Skylab mobile laboratory and approximately 50 Johnson Space Center medical engineering and recovery personnel departed Ellington Air Force Base at 1 minute after 5:00 today central daylight time for San Diego. There, the personnel will debark from the aircraft and the SML, or Skylab Mobile Lab, will be placed aboard the USS Ticonderoga, the recovery ship. And the recovery ship then tomorrow will sail from San Diego for the recovery area, which is located some 700 to 750 nautical miles west by south of San Diego. Anticipated time of arrival of the C-5A is approximately 3 hours from its takeoff time, which should make it about 8:00 p.m. central daylight time. At 22 hours 11 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-994/1

Time: 17:45 CDT 21:22:45 GMT

6/14/73

PAO This is Skylab Control, Houston, at 22 hours 45 minutes Greenwich mean time. During the change of shift briefing, the Skylab space station was in contact with the ground through Gsm. We recorded about 6 minutes of conversation, and we will play that back to you at this time.

CC Skylab Houston. AOS 9 minutes.

SPT Roger.

CC SPT, Houston.

SPT Go ahead.

CC The VTR is now empty. We would like you to get XUV data. You have 27 minutes available on the recorder.

SPT I don't think you want that much XUV.

CC Just voice sequences.

CC PLT, Houston.

PLT Go ahead.

CC Paul, would you consider setting up a S073 mode 4A prior to going to sleep tonight? It'll run all night for 10 revs, it should take about 5 to 10 minutes to set up. And although, mode 4A was run several days ago, only able to get 6 of 10 filters. And if we get this we'll essentially complete the 4A scan tonight.

PLT Okay, let's have it.

CC We'll send the pad up for that then.

PLT All righty. Good enough.

CC Skylab, have one or two news items if it won't interrupt any thing.

PLT Good, go ahead.

CC In case you haven't heard the President's speech last night, he is going to invoke a 60 day price freeze, that's based on the first 8 days of June. Wages and on the farm prices will be excluded from this. And they are considering looking at some profits, a possible roll back on that. At the end of the 60 day period, he is going to come up with a phase 4 program, again attempting to control prices. The money dealers said that this was too little and too late today. The price of a dollar slumped in European money markets, while gold jumped. It closed Wednesday at 115.75. Also rose in price, in carats closing at \$116 dollars an ounce, also.

PLT I think we'll stay up here, Houston.

CC We copy that.

CC Kissinger briefed members of Congress today, on the new Indo-China cease fire agreement. But offered a little prospect of any let up in the US bombing of Cambodia. In other words, it's still a camp ground. It's still a

SL-II MC-994/2

Time: 17:45 CDT 21:22:45 GMT
6/16/73

battle ground, Kissenger was quoted as saying. In Albuquerque, 41 people were left up in the air, not quite as high as you are, but they were stranded in 2 cable cars on the west face of the Sandia Mountains. They supposedly set a safe and comfortable night before rescuers began. They are going to try to lift the cars back onto the cables by crane or helicopter, and carry back the passengers down this 10,000 foot mountain. The cars were stalled Wednesday night in a extreme gust of wind caught them as they were being stopped. In case you are going to south Padre Island, Texas which is the newest town in Texas, they have just elected a new sherriff who is a 27 year old, red headed mother of two. She says I'm a mean red head and if they ever call me pig, they had better be careful, I might take it the wrong way. And in case there are any boat fans aboard, there is a new world speed boat record for ocean racing. It was set by Dr. Benomi of Rome in an off shore race. The boat is 36 feet, it has (garble) 468 cubic inch 600 horse engines, record time of 83.2 as compared to the old record of 73.1.

END OF TAPE

SL-II MC-995/1

Time: 17:50 CDT 21:22:50 GMT

6/14/73

CC - an off shore parade. The boat's 36 feet. Has two key (garble) 468 cubic inch, six horse engines. Record time of 83.2, as compared to the old record of 53.1. And the Sun is out today and everybody is sweeping the remnants of the water out of their houses in Friendswood. And we'll probably have a dry spell for awhile. Come to think of it, maybe you people are well off where you are. We will be LOS in 1 minute. Vanguard AOS at 23:10. You should have on board a one copy of the flight plan, evening questions and the CDR details.

SPT Roger, Houston.

PAO That concludes the conversation that we recorded over the Guam tracking site a few moments earlier. We're about 18 minutes from acquisition at Vanguard. At 22 hours 52 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-996/1
Time: 17:55 CDT 21:22:55 GMT
6/14/73

PAO This is Skylab Control Houston at 22 hours
55 minutes Greenwich mean time with an announcement. "The
NASA Manned Space Flight Management Council met today at
the Johnson Space Center, Houston, and discussed various
plans with respect to the sunshade on the Skylab space
station. No decision with respect to deploying another
sunshield was made. Additional discussions are scheduled
tomorrow." At 22 hours 56 minutes Greenwich mean time, this
is Skylab Control.

END OF TAPE

SL-II MC-997/1

Time: 18:09 CDT 21:23:09 GMT

6/14/73

FAO This is Skylab Control at 23 hours 10 minutes. We're about 3/4 of a minute away from acquisition at the Vanguard tracking site on what will be the start of the 452nd revolution. We will also be in contact with the spacecraft through Ascension, the Canaries and Madrid. We have an evening status report set and a medical conference set during that time frame. So we'll stand by for Capcom Bill Thornton's call to the crew.

CC

Skylab, Houston. AOS 10 minutes.

GDR

Hi there, Houston, I was about to say Skylab. I don't know where I am. Ah, Houston, are you ready for the evening status report?

CC

We're standing by for the status report.

CDR

Okay, the CDR had a particularly difficult struggle today because this field day is my first field day. There's a couple of items on there that are bad enough to gag a maggot. However, under the direct strain I managed to get it all down plus two butter cookies.

CC

We copy that.

CDR

And three optional salts. The SPT, suffered the same hardship, managed to get his down today also.

CC

Copy.

CDR

However, the PLT, did not eat his corn for lunch, nor his coffee with sugar for a snack, and he had plus 1.5 Delta H₂O, and zero optional salt.

CC

Is he all right today, not eating salt?

CDR

He's not allowed any.

PLT

I'm allowed a half a pack, yippee.

CDR

Okay, for the photo status report.

16 millimeter. We start with an EREP pass. C111, 00, C125; Then we got an M151 flash, EPC stow, Charlie India 06, 40, Charlie India 03. We got an EREP 11, with a Baker Hotel 0255. We got a M553-1, Charlie India 05, 00, Charlie India 01. We got a M553-2, Charlie India 06, 35. Charlie India 03, We got a M151-1. Charlie India 10, 00, Charlie India 08. We got a S073 prep 2. 2 rod extensions, Gamma 151, Charlie India 09, 66. Mike Tango 03. 35 millimeter, we have Charlie India 30, with a 36 frame count. Charlie India 28, with a 28 frame count. 70 millimeter, Charlie X-Ray 06, 103. ETC, we had 389 on one run, 410 on the other. CAL sequence done twice, both ETC mags unloaded. Film in (garble) Fox 27. The EREP set 2 Quebec was depleted. And the drawer A configuration, A1 is 0, 2 Charlie India, 05, 00, Charlie India 01, A2 03, Charlie India 06. 35, Charlie India 03, A3 is 06, Charlie India 10, 00, Charlie India 08, A4 is 05, Charlie India 11, 00, Charlie

SL-II MC 997/2

Time: 18:09 CDT 21:23:09 GMT
6/14/73

India 25, and floating is 07, Charlie India 09, 66, Mike
Tango 03. Changes for the flight plan, you've got. We
added the S073. No changes in stowage or anything else
and SPT's got the answers to some of your questions. My
question on how long did it take to vent 20 PSIs. I'm
going say about 45 minutes because I quit timing it after
you guys gave me the time --

END OF TAPE

SI-II MC-998/1

Time: 18:14 CDT 21:23:14 GMT
6/14/73

CDR - - my question on how long it took to vent 20 psi. I'm going to say about 45 minutes, because I quit timing it after you guys gave me the time to shut it off, but I did glance at it. It looked to me like about 45 minutes for that last 20 psi.

CC We copy, Pete.

CC Someone asked if you ever heard of Speedy Rigs?

CDR Speedy Rigs, no. Who's he?

CC I'll tell you one day.

CDR He's the faster talker who asked my wife about telling Goldilocks and the Three Bears in exactly 60 seconds.

CC We copy, Pete.

SPT Houston, SPT.

CC Go, SPT.

SPT Okay, evening questions, number 1. They were painted green and they are in the 2 holes provided for them on the experiment. Shame on you.

CC We copy.

SPT Okay, the M092 sail settings were all changed by us on either the first or second run, we really don't remember, and subsequently about 2 runs after that for each of us. The card readings being used are CDR 6, SPT 9, PLT 8. Correction on that the CDR said he did not go to 6, and he stayed at 7 after his initial change. Our (garble) are all out of line with the restraint system, so we're okay. We're not cheating, in other words. But, you do tend to ride lower in that thing in zero g.

CC Copy.

SPT Okay, as far as the (garble), it's working fine. There are no technical problems with it. Unfortunately, there hasn't been any significant activities for it to catch. So I can't tell how useful the tool is going to be.

CC We copy.

SPT And on M172. I haven't thought up any specifics on changes. I think for the manned restraint system, it's going to hack it. I think it's all right. I'd rather have a more positive lock device on the shoulder straps, but it's too late for that. We're making do fine with what we've got. As far as the CAL, Bill, the tray lids rattle and if you're happy with gray tape, okay. And some new drastic needs need to be come up with if you want to use M509 batteries and stuff like that because there really is no hope for them in the present scheme. Over.

CC Copy, Joe. And did I copy that the red, that the lead rattle on the trays, and the trays themselves

SL-7I MC-998/2

Time: 18:14 CDT 21:23:14 GMT
6/14/73

are they firmly attached to the adaptor?

SPT They appear to be. The numbers looks pretty good since I starting gray taping the lids onto the trays. That's what it was. You could hear them go click clack, click clack, every time the chair moved.

CC Okay. Would it be practical to tape the 509 batteries in and not attempt to hold them with the straps.

SPT I don't think so, because they're too heavy. The lids aren't so heavy. The other thing, even on the empty chair care, you have got to be careful how you secure the, the shoulder straps, because if they're floating around it makes a difference, you can see it in the data. I've got a question for you, Houston. I asked about ED31 this afternoon, and if I'm to do it, and start it this evening, I need a photo pad.

CC Stand by half.

SPT Have you got one for me?

CC Stand by just a second, Joe.

SPT Okay.

CC Joe, while we're waiting for that, what about C clamps or something else like that on those 509 batteries?

SPT It's possible, Bill. I haven't worked with them. I think that's something you can determine as a trainer.

CC Okay.

CC That ED31 pad should be up at Ascension.

SPT Went fast, it's getting late?

CC We copy.

CC Joe, one last question on that 172 CAL. That 2-1/2 hours you think is the realistic figure for, if you maintain the procedure that we've been using?

SPT Now that was with a real jury rig for the batteries and so on, which I don't think was very good any way. You can cut it now to an hour and a half, if you've got some quick and easy ways of securing them on because taping the lense doesn't take very long.

CC Copy.

CC We're going LOS here in approximately 1 minute. There will be AOS at Ascension at 23:27. And the med conference at 23:32. Madrid will be out of action on this pass at 23:36.

SPT Roger that, Houston. And I assume that if we do get the ED31 pad it will be okay to use the VTR, to televise that.

CC That's affirmative.

PAO The space station has moved out of range of Vanguard tracking ship. And we will acquire it again in about 5 and 1/2 minutes.

END OF TAPE

SL-II MC-999/1

Time: 18:22 CDT 21:23:22 GMT
6/14/73

PAO - - has moved out of the range of the Vanguard tracking ship, and we will acquire it again in about 5-1/2 minutes. We will keep the line up for the Ascension pass, and for the pass over the Canary Island.

CC Skylab, Houston. AOS 4 minutes.

CC SPT, Houston.

CC Skylab, Houston.

SPT Go ahead.

CC We were unable to get the ED31 message up because of a check point. However, there are only two very simple essential changes, if you can copy.

SPT Come ahead.

CC The first is simply to save the overcan for return and stowage. And the second one is, that no photos are needed for the preparation. It other wise is per checklist. We will be sending this pad up later, but you can proceed at this time.

SPT Okay, I will. And I will count on you tonight, some time to send up appropriate photo pads for examination and time schedules for that.

CC That's is affirmative. We're going to medical conference here at approximately 15 seconds.

SPT Okay.

END OF TAPE

SL-LL MC-1000/1

Time: 18:35 CDT 21:23:35 GMT

6/14/73

CC And Skylab, we'll be LOS here in about
30 seconds. We'll have you over Guam at 00:08.
PLT Hey, Bill, I didn't hear the teleprinter
on that pass. Did you get that S073 pad up here?
CC It should be up, Paul.
PLT Okay.
PAO The Skylab space station is still within
range of the Madrid tracking site, however the Madrid
station at this time on this pass is down, and we will not
get air to ground through Madrid. So our next contact
with Skylab will be at approximately 26 minutes over
Guam, again. At 23 hours 42 minutes, this is Skylab
Control.

END OF TAPE

SL-II MC-1001/1

Time: 19:07 CDT 22:00:07 GMT

6/14/73

PAO This is Skylab Control, at 7 minutes Greenwich mean time. In 7 minutes into the new day, day 166. We're about a minute and a half away from acquisition of the Skylab space station at Guam site. During the last pass over, or during the pass over Canary, the last one over Canaries, the crew held the daily medical conference with the surgeon. And I have his report. It is a very short one, and I'll quote, "The crew continues to be in excellent spirits and good health. They have no specific complaints, and there are no apparent problems developing." That's the end of the quote. We're about 40 seconds away from a call up by Capcom. So, we'll stand by. At the Guam station we should be in contact for about 7 minutes. Standing by for a call up by Capcom Bill Thornton.

CC Skylab, AOS Guam, 6 minutes.

SPT Roger, Houston.

CC Skylab LOS in 1 minute. Honeysuckle
at 00:22.

SPT Roger. Did you get the CD okay.

CC That's affirmative.

SPT All righty.

CDR Do we just leave it at zero all by
ourselves?

CC Don't let them leave you there.

CDR Lots of luck.

PAO We've had loss of signal with the space station from the Guam tracking site, but will pick up again at the Honeysuckle site in about 4-1/2 minutes. At that time we'll have about, roughly 3 minutes of time where we will be in communication. We'll leave the line up, and wait for the Capcom call up through the Honeysuckle site.

END OF TAPE

SL-11 MC-1002/1

Time: 19:18 CDT 22:00:18 GMT

6/14/73

CC Skylab, Houston. AOS for 3 minutes.
CDR Roger.
CC CDR, Houston.
CDR Speak, sweet lips.
CC I've been called a lot of things. Did you finish M553, Wheel 2, today?

CDR This is a very, very slow process. Let me tell you where I am, and what the problems are. There's something in there that really outgases, Bill, and I can make about one bloody ball, and then I got shut the whole operation down for about 2 hours. So I'll tell you where I am on wheel 2. I've made the three balls that are on the hard sting. But unfortunately, I think the electron beam gun is pooping out. I can't even get anything to melt without showing 80 millivolts and what's happening is that this material is fairly hard, I gather, from the stuff that we melted yesterday, and it does essentially the same thing. It melts and it's just about ready to go into a sere and I got it pointed exactly right, I'm convinced, right on the top third and it's just about to go the sphere when this thing retracts and shuts the gun off. I wind up with a part of a half melted cylinder and a half a sphere down at the base, and - But I'm working my way through it, slowly.

CC Okay. There was another question on it. Did the 5 kVA high voltage go off normally or did you have to pull main battery circuit breaker this time?

CDR Sometimes it does and sometimes it doesn't and then it is the function of the vacuum in there, I'm sure. And what I've done now, is I just - I do one or two and I see the vacuum drawing up and once it gets to .1 or above why, there's no sense messing with it. And if I shut it off at that point and then leave it alone it outgases. It will go up even higher and it outgasses for awhile and goes on vacuum again. That's why I say it's about a 2 hour cycle. So it's in there and I'll go make a ball every time I pass by and check the vacuum and see how it's doing, and if I can make one, I make one, and if I can't, why, you know, I go do something else. So it's still in there, and I've got 200 things and the three arc ones are made, and that's where I am.

CC Okay, Pete. Thank you very much, and we'll be going LOS here momentarily and have you again at Vanguard at 00:50.

CDR Okay.
PAO With the loss of signal from the Honey-suckle station we believe that this will be our last communication with the Skylab crew for this mission day.

SL-II MC-1002/2

Time: 19:18 CDT 22:00:18 GMT
6/14/73

That is mission day 21. Although in the next 21 of so minutes there is a skip across the Vanguard station. A very brief period of time, when we could be in communication with Skylab. According to the flight plan, however they are scheduled for their presleep activities. The flight controllers here have been polled by Flight Director Don Puddy and all of them indicated that the systems were in the proper configuration for a period of rest as far as the crew is concerned, so it's doubtful whether we will have any more air to ground. At 29 minutes into the new day. At the end of mission day 21. This is Skylab Control.

END OF TAPE

SL-II MC-1003/1
Time: 19:48 CDT 22:00:48 GMT
6/14/73

PAO This is Skylab Control at 49 minutes
Greenwich mean time. We're approaching the Vanguard tracking
station. We may have communication with the crew. We'll
keep the line up for any air to ground that should transpire.
CC Skylab, Houston. AOS for approximately
3 minutes.
PLT Roger. S073 is running.
CC Copy.
SPT Houston, SPT.
CC Go, SPT.
SPT You can tell Mr. Stanley that his exper-
iment came through in good shape and is off and running
also.
CC I'm sure he'll appreciate. We'll pass
it on.
CDR Houston, CDR.
CC Go, CDR.
CDR We've been having a very serious discus-
sion. We want to make sure, make very sure that Ticonderoga
has a large enough supply of butter cookies onboard handle
us.
CC Hey, Pete, I tried to eat them out
of those things and never could. So, I'm very sure they'll
have enough for you.
CDR Thank you.
CC Pete, I didn't realize that you were
a classics scholar also. I take it that was Chaucer you
were quoting to me the last time.
CDR I don't really know.
CC Tomorrow we are sending you up a new
set of detail pads. And S07323 is what we'll be running.
We're about to go LOS here, and so good night to you all.
CDR Good night.
PAO We have had loss of signal at the Van-
guard tracking ship. Capcom passed the crew a good night.
And so we can say with some confidence at this time that
this really is the end of mission day 21. At 55 minutes
Greenwich mean time, this is Skylab Control.

END OF TAPE